THE BIOLOGY OF THE RACE PROBLEM

by

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"Experience should teach us to be more on our guard to protect our liberties when the government's purposes are beneficent. . . . The greatest dangers to liberty lurk in insidious encroachment by men of zeal, well-meaning but without understanding."

Former JUSTICE LOUIS D. BRANDEIS

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INTRODUCTION

The United States Supreme Court's ruling on the school integration cases is potentially one of the most fateful decisions ever made by a court. It could largely determine the nature of the flesh, bone, blood, and mind of future generations of Americans. Support for that decision and adherence to or rejection of the programs that it imposes should be based upon the most complete and reliable knowledge and understanding that it is possible to obtain. There is no record that the Court or the Federal government has at any time sought to get that knowledge and understanding, although the opinions of certain "authorities" were cited as justification for the ruling.

When the Justices of the Supreme Court abandoned former legal precedents and the historic meaning of the Constitution, and based their decision in *Brown vs. Board of Education* upon "science" and the opinions of "authorities", they inevitably made the validity of their ruling dependent upon the truth and validity of their scientific material. This should have been subjected to critical examination and was not. In addition there was a great deal of established fact and pertinent evidence bearing on the issue which the court neglected entirely.

One of the most important problems facing Americans today is, Shall we pursue programs that would result in mixing the genes of the Negro race with those of the White race and so convert the population of the United States into a mixed-blooded people? Before saying yes to that question, before making any revolutionary decisions relative to so important and irreversible a matter, the information we have that bears on the issue should be carefully examined and critically evaluated.

As a contribution to presenting such evidence and for the purpose of weighing the merit of dogmas built up and imposed upon the public as a basis for revolutionary social and political programs, it is the object of this study to ask certain questions

of a fundamental biological nature and to see what answers are given by the facts as discovered and reported by the most credible scientists. Some of these questions are:

1) Are babies born equal in the biological sense, or are there significant differences between them before environment plays a part in molding them?

2) What is the mechanism of biological inheritance?

3) Is the difference between the White and Negro races primarily a "paint job" or are there differences of such fundamental nature and significance that they should be taken into consideration in deciding upon social and educational policies involving the relations of the races?

4) Are significant differences in individuals and in races hereditary or are they produced anew in each generation by environmental influences?

5) What should we expect to be the long range results of a program that would lead to racial amalgamation?

During the last four decades, while knowledge of heredity has been accumulating rapidly, there has been a widespread and intensive campaign to break down belief in the importance of heredity in the affairs of men and to establish environment as the major if not the only factor of significance in determining the nature of their lives and accomplishments. The purpose of this campaign has been to win the support of men's minds for certain educational, social, and political programs.

In order to belittle heredity and establish environmentalism in our thinking, it was necessary to promote the idea that all babies born into the world arrive with essentially equal endowments and that subsequent differences are the result of forces outside the individual. Through the use of clever sophistry, and much repetition, great progress has been made in establishing the thought that all men are equal biologically—not merely equal in their right to justice. As a result of persistent mental

conditioning, "the doctrine of the essential uniformity of human infants has been widely accepted and is held by a great body of social psychologists, sociologists, social anthropologists and many men in public life."[1] Furthermore it has been made the basis for revolutionary changes in human affairs.

But is it valid?

To each of these questions, among others, this report will now address itself.

[1]Roger Williams 1953 *Free and Unequal.* University of Texas Press.

I

ARE ALL BABIES APPROXIMATELY UNIFORM AND EQUAL IN ENDOWMENTS WHEN THEY ARE BORN?

This question probably seems absurd to all parents who have reared two or more children and have had opportunity to observe and compare them from birth.

What do competent scientists say?

Dr. Arnold Gesell, one of the most renowned students of child development in the world, is surely a competent and credible witness. Gesell[2] and Ilg (one of his associates) state: *"Infants are individuals. They are individuals from the moment of birth. Indeed, many of their individual characteristics are laid down long before birth.* . . . Physical measurements may show which of three body types a child will most closely approximate as an adult. . . . There is similar diversity in temperaments, corresponding to differences in physique, and in biochemical and physiological peculiarities. . . . "

"Such classifications are much too simple to do justice to the infinite diversity of human individuality; but they serve to remind us that there are primary individual differences more basic than the differences acquired through acculturation. In the hey-day of Behaviorism there was a popular impression that all babies are very much alike at birth, and that the differences which become apparent as they mature are due to conditioned reflexes. The child's mind was said to consist of a complex bundle of conditioned reflexes derived from environmental stimuli. According to this point of view, children resemble each other most while they are infants—the younger the more alike.

"There is no evidence, however, that infants are not individuals to the same degree that adults are individuals. Long-range studies made in our clinic have demonstrated that such traits as social responsiveness, readiness of smiling, self de-

[2]Arnold Gesell and Frances L. Ilg 1913 *Infant and Child in the Culture of Today.* Harper and Bros.

pendence and motor agility tend to manifest themselves early and to persist under varying environmental conditions. Every child is born with a *naturel* which colors and structures his experiences. . . . He has constitutional traits and tendencies largely inborn, which determine *how, what,* and to some extent even *when* he will learn. These traits are both racial and familial. . . ." (pp. 39-40).

Part of the evidence for the conclusions expressed above Gesell found in careful studies of fraternal and identical twins. He says: "Fraternal twins are derived from two separately fertilized egg-cells. Each twin therefore has a distinctive hereditary origin and a correspondingly distinctive genetic constitution. . . . They show family resemblances but they are essentially unlike, even though they are simultaneously reared in the same household and subject to the selfsame culture.

"Identical twins are derived from a single egg-cell, and they may indeed be almost identical because they share one and the same genetic constitution. Accordingly they show throughgoing correspondences in their physical and mental development. . . ." (p. 41).

In another book, Gesell[3] points out that features of individuality begin to be recognizable long before birth. "Racial differences are recognizable by the fourth fetal month. . . . The musculature of the Negro fetus is more compact and coarsely bundled than that of the white fetus of similar age. . . . Our own repeated observations of a large group of fetal infants left us with no doubt that psychologically they were individuals. Just as no two looked alike, so no two behaved precisely alike. One was impassive when another was alert. Even among the youngest there were discernible differences in vividness, reactivity and responsiveness. There were genuine individual differences, already prophetic of the diversity that distinguishes the human family." (p. 172).

"The child comes by his psychic constitution through embryological processes. . . ." (p. 167).

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[3]Arnold Gesell 1945 *The Embryology of Behavior.* Harper & Bros.

Few people would venture to say that Gesell is uninformed on the subject under consideration. After such expert and positive evidence, it scarcely seems necessary to call other witnesses, but I wish to quote again from Professor Roger Williams,[4] director of the Clayton Institute:

"According to the assembly line idea, normal babies' brains are thought of not only as equally blank but as the same kinds of blanks, with the capability of developing into a thinking apparatus of essentially the same quality." After citing many historical examples of differences in the nature or quality of minds, he follows with the statement: "From the biological viewpoint it may be supposed that the 'thinking machinery' of each individual in all its microscopic details and ramifications is inherited and that just as ridges on the fingers (finger prints) are distinctive for each individual, the wrinkles and structural features of the brain are likewise distinctive" (pp. 40-41).

Finally, I would like to stress the inclusive summary of the scope of genetic influences offered by Professor C. D. Darlington in his *The Facts of Life*:[5]

"From what twins have taught us we can now enlarge the catalogue of properties described so forcefully by Darwin as inherited, or rather genetically controlled and determined, as follows:

1. The rate and duration of our growth; and hence our ultimate size, structure and quality in bone, flesh, brain, blood, etc.

2. Our hormone systems and hence our temperaments, whether sanguine, melancholy or choleric; timid or courageous; observant, reflective, or impulsive. Hence our social habits, whether solitary or gregarious; affectionate or morose; useful, deranged, or criminal; hence also the company we keep, and our capacities and directions of love and hatred.

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[4]Roger Williams 1953 *Free and Unequal.* University of Texas Press.
[5]C. D. Darlington 1953 *The Facts of Life.* Macmillan.

3. Our perception and appreciation of taste, touch and smell, sound and colour, harmony and pattern. Our capacities and qualities for memory, whether for sound, sight, number or form. Our kinds and degrees of imagination, visualization and reason. Hence our understanding of truth and beauty. Hence also our educability in all these respects, or lack of it, and our capacity and choice in work and leisure.

4. The structures producing our voice; hence the pitch, timbre and strength in which we produce it, its educability, and the range and defects of our speech.

5. The times and patterns by which we gain and lose our hair and teeth, our deposits of fat, and our perceptual, intellectual, and reproductive powers.

6. Our requirements of water, salts, sugars, fats, proteins and specific vitamins, of sleep, of sunlight, and of exercise. And likewise the advantages and disadvantages we derive from drugs of various kinds and amounts, whether nicotine or alcohol, strychnine or cocaine.

7. Our susceptibility to every disease, infectious or non-infectious that flesh is heir to. Our abilities to receive, or coagulate, or reject, an infusion of blood or a graft of skin: these all depending on the types and varieties of our cell proteins.

8. And above all, or beneath all . . . our sex, whether male or female, our sexual capacity and interest, our fertility or sterility.

In all these respects our properties are limited and prescribed in the fertilized egg. They are inherent in almost every cell of our bodies. And they are carried in them from conception to dissolution." (pp. 271-272).

In short, not only are babies not born alike, they vary so greatly and in such complex ways that the differences may be said to be infinite.

II

THE MECHANISM OF HEREDITY

For the benefit of those who have not followed closely the development of the science of genetics, it seems appropriate at this point to review briefly the mechanism of biological heredity.

Our modern concept of genetic inheritance has its basis in the discovery, nearly 100 years ago, by Gregor Johann Mendel that when pure strains of organisms with contrasting features are cross-bred, the qualities inherited from the original parents sort out and occur in succeeding generations in proportions subject to exact laws. During the past 60 years a vast amount of work based on Mendel's discovery has revealed much of the mechanism of inheritance and explained the inheritance of many features in living things from viruses to man. Each individual organism has come to be conceived of as being a composite of a large number of unit characters that may be passed on to succeeding generations.

Mendel's contribution has been told, in part, by Curt Stern,[6] one of our very productive workers in heredity. From him I quote:

"We all know the story of Mendel's successful thrust. He crossed a round-seeded to a wrinkled-seeded pea plant. All of their offspring were round. He crossed the offspring among one another. Their progeny was part round, part wrinkled. He counted their numbers and found three round to one wrinkled. What of it?—one might be inclined to ask—and his contemporaries' reaction, or lack of reaction, is testimony to this shrugging of the shoulders. Yet out of this childishly simple couple of facts, the deep truth was lifted that the contributions of two parents to their offspring do not blend or merge into a single hereditary

[6]Curt Stern 1952 Genetics and the world today, pp. 61-82, in *The Scientists Look at Our World* (The Benjamin Franklin Lectures at the University of Pennsylvania), University of Pennsylvania Press.

newness but remain separable, to be recovered unchanged in a later generation: clear-cut roundness and clear-cut wrinkledness.

"Mendel noticed another fact. The round-seeded parent had yellow seed-color, while the wrinkled parent plant had green seeds. Among the grandchildren four types appeared, with seeds round yellow and round green, wrinkled yellow and wrinkled green. Some of you will remember their proportions: 9:3:3:1. But that is a minor matter. The lever for further insight is the . . . fact that the parental traits, round and yellow, which came from one parent, and wrinkled and green which came from the other, had not always reappeared together in the combination in which they had been introduced into the cross, but had also appeared in the new combinations round green and wrinkled yellow. This fact reveals that each parent does not transmit a unified lump of hereditary matter, one whose joint consequences are in one case roundness and yellowness and in the other wrinkledness and greenness. Rather it shows that the hereditary matter of an individual is broken up not only into the two contributions of his parents, but that each contribution itself consists of separate and separable units. Thus the concept of the hereditary make-up as an assembly of many independent units was born." (p. 62).

The unit characters, or the substance that transmits them from generation to generation, exist in the nuclei of cells as genes, which are arranged in a linear manner in or on chromosomes, like beads on a string. Except in eggs and sperms, all of the cells of our bodies have chromosomes present in pairs. Consequently the genes for unit characters are present in pairs. The members of a pair are called alleles. It has been estimated that human cells contain many thousands of genes.

What, precisely, are chromosomes and genes? We have an answer to that question from Dr. J. A. Fraser Roberts,[7] director, Clinical Genetics Research Unit, Medical Research Council, Great Britain: "Chromosomes may be regarded as nucleic acid

[7]J. A. Fraser Roberts 1959 *An Introduction to Medical Genetics.* Oxford University Press. See p. 161.

chains (DNA[1]) and the genes as very short segments of the chain determining the structure of proteins."

In mature eggs and sperms the chromosomes and their genes have been reduced to a set of single chromosomes and single alleles from each pair. As a result of fertilization, the chromosomes and the genes are restored to pairs, one member of each pair coming from each prospective parent, and so new combinations of genes are brought about in the fertilized egg and new combinations of characters in the resultant offspring.

Some unit characters are virtually independent of others in heredity but other unit characters are linked in such a way that they cannot be passed on to offspring separately. Some repel each other so that they cannot be inherited together. Some seem to be the result of the action of a single pair of genes, whereas others are the result of the interaction of a number of pairs.

A man consists of a multitude of unit characters synthesized into an individual. Each character is transmitted from generation to generation through the influence of its pair, or assemblage of pairs, of genes. Both members of a pair exercise an influence on the resulting character.

In the case of Mendel's peas, tallness or shortness appears to be determined by a single pair of genes. Pure strains have a pair of genes for tallness or a pair of genes for shortness. A plant from a strain pure for tallness fertilized by a plant of its own genetic kind produces tall plants only. A pure short plant fertilized by a pure short plant produces short plants only. A tall plant from a pure strain crossed to a short plant produces tall plants only, tallness being dominant over shortness. But these hybrids when bred together produce some plants tall, some short, in a definite ratio.

In the case of man, some characters are determined by a single gene, or pair of genes, but stature is not one of them. Stature is not, therefore, inherited in such a clear-cut way as in peas because many genes are involved (it is polygenic), and so more complicated mathematics is required for genetic

analysis. It is widely recognized among professional geneticists that not only stature but many of the most fundamental, and racial, traits are polygenic. Intelligence is among these.

Chromosomes, with their contained genes, reproduce their substance and divide linearly during each cell division. In this way every cell in the body is ordinarily provided with a complete double set of genes.[8]

Genes produce their effects in an environment—the environment within the organism as well as the environment of the external world. Genes and environment interact upon one another and so produce the results of gradual differentiation of a person from an egg. In the case of some unit characters, the genes seem to be the more dominant influence by far; with regard to other features, environment exercises the more potent influence as, for example, becoming ill with polio or tuberculosis.[9] However, the "genetic pattern of development is not over-ridden by the environment even when a portion of the egg or embryo is grafted into another strain or species that has recognizably different characters. This has been demonstrated so many times by the most reputable embryologists that it has become a part of the common lore of embryology" (Twitty[10]). One may graft potential brain tissue of one species into an embryo of another species and it will become brain; but brain of the species from which it came, not brain of the species into

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[8]"The manner of transmittal of genetic material from parent to offspring is similar throughout the explored range of life. . . . The genetic material is the most precious possession of any species; and if a species is to persist, its genetic mechanism must be protected from excessive induction of mutations—changes which, as a rule, are deterimental to individuals of the species." N. Demerec 1960 The nature of the gene. *Am. Jour. Human Genetics,* v. 13, pp. 122-127.

[9]Genecticists in their vocabulary recognize the influence in development played by the environment as well as by the genes. They have coined two words for use in distinguishing between the two influences. The word *genotype* is used to refer to the genetic constitution, fixed at the time of fertilization of the egg. The word *phenotype* is used to refer to the sum total of recognizable traits after environment has worked its influence on the genetic constitution.

[10]V. C. Twitty 1936 Correlated genetic and embryological experiments on Triturus. *J. Exp. Zool.,* v. 74, pp. 239-302.

which it was grafted. Likewise it has been shown that if a limb-bud from a chick embryo with a "creeper", or shortlegged, combination of genes is grafted onto a normal chick embryo it will develop into a leg of the creeper type, not of the normal type.

Our knowledge of genetic material is truly astonishing, as indicated in an article by J. Herbert Taylor,[11] geneticist of Columbia University. I shall quote a few interpretative sentences: "We are not yet able to define the genetic units, in terms of the molecules. . . . However, each chromosome appears to consist of many thousands of such molecules which we think of as long taped messages on cellular metabolism. Certainly, each set of chromosomes could tell a wonderful tale extending back to the beginnings of life on earth if the decoding could be complete. . . . Perhaps you have not looked at biological research in relation to the genetic code, but if you study morphology or taxonomy, you are reading, i.e., trying to put together and make sense out of this translated message. If you study biochemistry, you study still different parts of the message. In some aspects of the study, the properties of specific proteins, for example, one gets closer to the original code and the studies should begin to yield precise correlation, even with the techniques which are available to us now. Even if you study psychology, you are studying some aspects of a remarkable and marvelous translation of the code into the mental patterns. . . ."

It is clear that decisive elements of human individuality are ingrained in the very tissue of body and brain, are highly variable and are inherited. Let us now ask whether these differences are unrelated to race or whether race adds another variation which must be considered.

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[11]J. Herbert Taylor 1960 Chromosome reproduction and the problem of coding and transmitting the genetic inheritance. *Am. Scientist,* v. 48, pp. 365-382.

III

ARE THERE FUNDAMENTAL DIFFERENCES BETWEEN THE WHITE AND NEGRO RACES?

Wise decisions about fateful programs depend upon a correct answer to that question. Many integrationists have been persistent advocates of the dogma that there are no significant differences between races that changes in the environment will not eliminate. UNESCO has been active in distributing literature inculcating this thought. One of their publications has this dogmatic statement: "Such biological differences as exist between members of different ethnic groups have no relevance to problems of social and political organization, moral life, and communication between human beings."[12] That statement is unproven and almost certainly untrue. The thesis is supported mostly by tricks of writing, not by scientific investigation and orderly presentation of established facts. What are the facts pertaining to this question, and what are the conclusions of learned and credible witnesses.

Roger Williams[13] has pertinently said: "The area of race relations is one in which the acceptance or non-acceptance of the uniformity doctrine is of paramount importance. Acceptance appears on the surface to be the simple solution, but it would be a solution that flies in the face of scientific facts and denies the fundamental basis for our love of freedom. Such a solution is more plausible than workable, more imaginary than real because it involves a view of people as they are not." (p. 128).

Charles Darwin,[14] one of the most competent and critical observers in the history of science writes, "The races differ . . .

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[12]The statement is published in the UNESCO series, "The Race Question in Modern Science," Statement of 1950. See *The Race Concept,* 1951 UNESCO, p. 93.

[13]Roger Williams 1953 *Free and Unequal.* University of Texas Press.

[14]Charles Darwin 1871 *The Descent of Man.* John Murray. (Several *later editions)*

in constitution, in acclimatiation, and liability to certain diseases. Their mental characteristics are also very distinct."

George F. Carter,[15] Professor of Geography at Johns Hopkins University, reminds us that "When man arrived on the scene less than a million years ago, he found a world much like that of today. . . . From the time of man's appearance, the extremes of the earth sculptured him into biologically divergent races. For great periods of time he lived in isolation—some under a burning sun, until their skins had grown dark and their hair kinky; others, in wind and snow until their complexion turned fair and their bodies thick and slow to lose heat. . . . It molded his mind too."

External racial differences are obvious to all who have eyes. Internal racial differences are revealed when scientific comparisons are made of Negroes and Whites. For example, Professor Mildred Trotter[16] and her associates have found that in addition to previously known morphological skeletal differences, ". . . bones of the Negro skeleton are denser than bones of the white skeleton. The difference in density of bones may not be *per se* significant to our problem, but it is significant in that it illustrates the pervasive nature of racial differences. Another example of the pervasive influence and expression of race is found in the fact that individuals of the White and Negro races differ in the protein components of the blood serum. This is hereditary, the mode of inheritance being a two allelic system without dominance.[17]

Let us now consider what has been said about the currently existing types of men, from the standpoint of distinctive characters and classification, as seen by investigators trained in this

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[15]George F. Carter 1961 The Earth. *Johns Hopkins Magazine,* v. 12 (May-June) pp. 24-29.

[16]Mildred Trotter and others 1960 Densities of bones of white and negro skeletons. *Jour. Bone and Joint Surgery,* v. 42-A, pp. 50-58.

[17]H. Cleave and A. G. Bearn 1961 Studies on the "Group Specific Component" of human serum. Gene frequencies in several populations. *Am. Jour. Human Genetics,* v. 13, pp. 372-378.

area of science. Dr. E. Raymond Hall,[18] chairman of the Department of Zoology and Director of the Museum of Natural History at the University of Kansas, says, "In man, the races and geographic variants are divisible into approximately five zoological subspecies:

1) Homo sapiens sapiens (Caucasian)

2) Homo sapiens americanus (American Indian)

3) Homo sapiens asiaticus (Mongolian)

4) Homo sapiens afer (Negro)

5) Homo sapiens tasmanianus (Australian Blacks)

"Something that most non-zoologists seem not to know is that the subspecies of man are distinguished one from the other by the same sorts of differences—characters, in zoological parlance—as are subspecies of almost any other kind of mammal. . . . Subspecies of man, like subspecies of other mammals, are distinguished by trenchant morphological [structural] characters of a heritable sort. . . ." Professor Hall lists some of these and continues, "Not only do subspecies of man differ in shape of parts of the skeleton, color of skin, and shape of the hair, as do subspecies of other kinds of mammals, but they differ in psychological characteristics. . . .

"Many persons who have expressed themselves on racial and international problems at the peace table in the past were unaware of the magnitude of these differences, therefore minimized their importance, and so far as known, the zoologists' point of view has never been taken into consideration in drawing up peace terms."

Another competent witness in the field of distinctive characteristics of races, Prof. Robert Gayre,[19] of Scotland, states,

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[18]Raymond Hall 1946 Zoological subspecies of man at the peace table. *Jour. Mammalogy,* v. 27, pp. 358-364.

[19]R. Gayre 1960 The application of genetics to ethnology. *Mankind Quarterly,* v. 1, pp. 109-112.

"Thus the typical Negroid has, among other characters peculiar to himself, a dark skin, dark non-straight and non-wavy hair, dark eyes, a strong tendency to prognathism, thick everted lips, broad, flat and open nostrils, and generally a long skull (although there are also broad skulled Negroes as well)." These traits are hereditary.

A third recent description of living Negro people is by William Howells:[20] "The great populations of Negroes, beginning at the Atlantic bulge of Africa, run from the savannahs and woods of West Africa through the Congo forests up to the highlands of the east and south. Like the American Indians, they vary somewhat in size and features. But they have the classic Negro features; woolly hair, thickened lips; heavy pigment; a broad, short nose; and prognathism, or projection of the middle and lower face. The head is rather flat-sided, and the forehead is also narrow and tends to be vertical, if not high, and to be lacking in brow ridges. They are of medium build and rather well muscled, not lanky, though the arms and legs are relatively long. . . ." (p. 303).

These descriptions have mentioned both physical and mental differences. Let us examine more closely some of the latter.

A. Non-morphological Racial Differences

There are many intellectual and behavioral features that are considered to characterize the Negro and distinguish him from the Caucasian. In some cases they are quantitative[21] differences rather than exclusive ones. Present day racial-sociological-political debates commonly center around the realty and significance of these. What is the evidence regarding them?

Sir Francis Galton,[22] one of England's most distinguished scientists of an earlier generation, who conducted exploration

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[20]William H. Howell 1959 *Mankind in the Making.* Doubleday & Company.

[21]For the meaning of this word in scientific usage see *infra,* p. 26 footnote 38.

[22]Francis Galton, *Hereditary Genius.* Macmillan, Edition of 1892; reprint 1925 by Watts & Co.

in Africa, says, "There is a most unusual unanimity in respect to the causes of incapacity of savages for civilization among writers who have travelled among savages. . . . The labor of such men is neither constant or steady. They work, except for a short time, when urged by want and encouraged by kind treatment." (p. 326).

The above statement, made a few generations ago, closely coincides with the general impression regarding American Negroes today, with exceptions, and also with the current concept held by competent observers regarding the nature of modern black Africans. Francis B. Stevens,[23] former career diplomat, writes, "As for the masses, they are normally content, if they have the security of food, shelter and police protection. In the past, this security has been provided by the white authorities and white settlers, and the tribal native is by no means automatically anti-white. But he is highly emotional, and he is readily goaded by irresponsible leaders into violence against blacks or whites alike."

Out of his great professional experience as a physician with Negroes in Africa, Dr. J. C. Carothers[24] asks the question, ". . . Is there any likelihood that African mentality is in any way basically different from the European? . . . It seems to the present writer that it is very unlikely that there will not be some differences. The African stock diverged from the European at least 30,000 years ago.[25] . . . It would be surprising if no divergent evolution had occurred in so many generations. . . ."

Elsewhere, regarding Negro qualities, he says, ". . . The African loves conversation and discussion, and his powers of expression are often so dramatic as to disguise the essential triviality, inconsequence, or even falsity of his theme" (p. 49).

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[23]Francis B. Stevens, Black nationalism—men in a hurry. *U. S. News and World Report*, March 6, 1961, p. 55.

[24]J. C. Carothers, 1953 The African Mind in Health and Disease. *World Health Organization Monograph Series*, No. 17.

[25]Prof. Carleton S. Coon places the racial differentiation of man at closer to 400,000 years ago. See *infra*, p. 60.

Again, Carothers quotes Westermann, apparently approvingly: "With the Negro, emotional, momentary and explosive thinking predominates. . . . The Negro has but few gifts for work which aim at a distant goal and require tenacity, independence, and foresight." He also quotes French neuropsychiatrists, Gallais and Planques: "The best known traits of the normal psychology of the African are, above all, the importance of physical needs (nutrition, sexuality); and a liveliness of the emotions which is counterbalanced by their poor duration. . . . Projects for the future occupy him but little." Carothers cites other similar judgments and adds, ". . . it is clear that as African life impinges on European observers these conceptions represent the truth." (pp. 85-87). On p. 157 he quotes Tooth: "Unlike more civilized peoples, he is governed more by emotion than intellect."

These observations of psychologists regarding Negroes in Africa[26] are very similar to the judgments one hears expressed by Americans who have seen much of Negroes. Indolence, improvidence, and consequent pauperism are qualities commonly ascribed to them. The same qualities exist among some Whites, but the incidence is much higher among Negroes. Some of us know Negroes who are intelligent, industrious, thrifty, and dependable; but these are not qualities that characterize large numbers of the race.

On this subject the evidence of intelligence tests is important, particularly as it concerns overlap, i.e., the extent to which a minority of Negroes exceed the White average.

B. Intelligence Tests

Many comparative studies have been made using various types of psychological tests and educational achievement tests,

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[26]Biesheuvel, a physician who is director of the National Institute for Personnel Research in Johannesburg, says, ". . . . The effective intelligence of Africans, in terms of ability to reason, to make adjustments to the needs of Western technological society and to profit by higher education, is appreciably below the mean of European communities." S. Biesheuvel The occupational abilities of Africans. *Optima,* (March 1952) v. 2 pp. 18-22.

in the United States, in Canada, in Africa (see Carothers) and elsewhere. With scarcely any exception, regardless of geography or the tester, the results show that the mean achievement of Negro groups is considerably below the mean achievement of comparable White groups.

Dr. Frank McGurk,[27] one of the active investigators in this field, has this to say: "The existence of Negro-white test score differences is hardly debatable. As far as the empirical data are concerned, the literature shows clearly that Negroes, as a group of subjects, obtain lower mean test scores than whites, as a group of subjects." He says also: "The various differences in socioeconomic environments of the Negroes, between 1918 and 1950, have not altered the Negro-white test score relationship."

The latest compilation and analysis of the comparative testing of Negro intelligence is in a book by Dr. Audrey M. Shuey. The results of the researches compiled by Dr. Shuey have been briefly summarized by Dr. Henry E. Garrett:[28]

"1) The I. Q.'s of American Negroes are from 15 to 20 points, on the average, below those of American whites.

2) Negro overlap of white median I. Q.'s ranges from 10 to 25 per cent—equality would require 50 per cent.

3) About six times as many whites as Negroes fall in the 'gifted child' category.

4) About six times as many Negroes as whites fall below 70 I. Q.—that is, in the feeble-minded group.

5) Negro-white differences in mean test score occur in all types of mental tests, but the Negro lag is greatest in tests of an abstract nature—for example, problems involving reasoning, deduction, comprehension. These

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[27]Frank C. J. McGurk 1959 "Negro vs. White Intelligence"—an answer. *Harvard Educational Review*, v. 29, pp. 54-62.

[28]Henry E. Garrett, One psychologist's view of equality of the races. See p. 73 of *U. S. News and World Report* for August 13, 1961. (Originally published in *Perspectives in Biology and Medicine*, summer number, University of Chicago Press.)

are the functions called for in education above the lowest levels.

6) Differences between Negro and white children increased with chronological age, the gap in performance being largest at the high-school and college levels.

7) Large and significant differences in favor of whites appear even when socioeconomic factors have been equated."

The claim that Negro-White differences in mental tests would be eliminated if educational and other cultural factors were equalized has little validity. On the contrary, the available evidence demonstrates the improbability that equalization of cultural factors would ever equalize average test scores. There is both direct and indirect evidence on this point.

Before the Civil War, slaves escaped from southern plantations and, with the aid of organized abolitionists, made their way to Canada and settled in what is now Kent County, Ontario. Here they and their descendants are reported to have been on a level with the white man with regard to every political and social advantage. There has been no segregation in schools. And yet tests show differences in scores similar to those found in the southern United States. In 1939 Tanser[29] gave standard verbal and performance tests to the children in seven schools (grades 1-8). Negro overlap of White norms varied from 13% to 20%, not significantly different from the 10% to 25% overlap for random groups reported by Shuey. In this historical experiment the equalization of cultural background did not increase the school performance of the Negro children relative to that of their White neighbors.

Let us now consider a Southern situation in which equality or better in educational opportunity was given the Negro children, but marked differences in scores persisted. In 1865

[29]H. A. Tanser 1939 *The Settlement of Negroes in Kent County, Ontario.* Shepherd Publishing Co., Chatham, Ontario.

northern philanthropists, wishing to do something for the freed Negroes, established schools for their children in Wilmington, North Carolina. In consequence of this, Negro children in the Wilmington area for decades had educational opportunities superior to those available to 90% of the White children in North Carolina. Since the formation of the state school system, efforts have been made to give White and Negro children equally good public schools. (It is worthy of note that for a good many years North Carolina has paid its Negro teachers higher salaries on the average than it has its White teachers.)

One would expect these superior opportunities to turn out a superior product. What are the facts? According to records of the New Hanover County schools (which include the Wilmington schools), certified by Superintendent H. M. Roland, standard achievement tests given to high school students in 1954 show results as follows:

	White	Negro
Highest Quarter	24.3%	1.7%
Next (3rd) Quarter	21.8%	5.6%
Next (2nd) Quarter	25.6%	13.2%
Lowest Quarter	28.3%	79.5%

Table shows percentage of students placing in each quarter.

Superintendent Roland is well known for the effort he has put into giving Negro children the best possible advantages. I quote the following statement from his report: "If there is a school system *anywhere* that has succeeded in bringing the Negro up to the White average in mentality and achievement, it has not yet been reported."

Other studies in which attempts were made to equate educational and other cultural factors reveal a similar persistence of differences. It is important to note McGurk's evidence that im-

provement in the Negro's status nationally between 1918 and 1950 did not improve his relative performance.[30]

We may also quote the comments of Pitrim Sorokin,[31] chairman of the Department of Sociology at Harvard: "The environment of either the Russian peasantry before the annihilation of serfdom, or of the mediaeval serfs, or of the Roman and the Greek slaves was probably not any better, if indeed it was not worse, than the environment of the American negro before 1861 or at the present moment. Yet these slaves and serfs of the white race, in spite of their environment, yielded a considerable number of geniuses of the first degree, not to mention the eminent people of a smaller caliber. Meanwhile, excepting, perhaps, a few heavyweight champions and eminent singers, the American negroes have not up to this time produced a single genius of great caliber. These considerations and facts seem to point at the factor of heredity, without which all these phenomena cannot be accounted for." (p. 298).

C. Race and Crime

There is undoubtedly an environmental element in crime, perhaps a large one, and it would be folly not to recognize it. On the other hand, consideration of the facts forces one to the conclusion that there is likewise a large racial factor that may be disregarded only at great human cost.

Members of all races commit crimes but the rate varies among different races. Records show a much higher rate among Negroes than among Caucasians. This difference seems

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[30]For a fuller and more adequate discussion of the question of overlap (with citations to literature) see Henry E. Garrett 1962 The SPSSI and racial differences. To appear in the *American Psychologist;* also Henry E. Garrett 1961 The scientific racism of Juan Comas. Mankind Quarterly, v. 2, pp. 100-106. For fuller discussions of the whole problem of comparative Negro-White testing see J. C. Carothers 1953 *The African Mind in Health and Disease.* World Health Organization, Geneva; also Audrey M. Shuey 1958 *The Testing of Negro Intelligence.* Bell, Lynchburg; also Nathaniel Weyl 1958 *The Negro in American Civilization.* Public Affairs Press, Washington.

[31]Pitrim Sorokin 1929 *Contemporary Sociological Theories.* Harper and Bros.

to bear some relation to differences in personality and behavioral characteristics of the two races. Among both ordinary citizens and psychiatrists one encounters the oft-expressed judgment that Negroes, both in this country and in Africa, exhibit a more unrestrained emotional life and lack of self-discipline than Whites, and it is well known that the rate of arrest and conviction for crimes is much higher among Negroes.

People from Northern areas of the United States, where Negroes were formerly scarce, used to come south, observe the disproportionately large numbers of Negroes on road gangs and in prisons and jump to the conclusion that the predominance of Negro prisoners was due to Southern injustice and abuse of the Negro. Within recent years, however, large numbers of Negroes have migrated to Northern cities and the people there have found that Negroes have filled their jails and prisons and made their city streets dangerous with their criminal tendencies. And yet some ardent integrationists, like Klineberg, insist that no racial factor has been discovered to be responsible for crime. Such a position is difficult to support, unless one banishes facts from consideration. What are the facts?

W. A. Bonger,[32] criminologist from the Netherlands, reports that criminality among Negroes, as shown by the U. S. Census of 1910, was considerably higher than among Whites. The higher rate persists in subsequent records. Data for the first three-quarters of 1938 reveal that "There were arrested, per 100,000 of population over the age of 15: 164 whites born out of the U. S., 444 whites born in the U. S., and 1,175 Negroes. . . . It must be remarked that the criminality of Negroes in the northern states is considerably higher than in the southern states, actually three to one." (p. 44). As the years pass this situation does not improve. According to the F. B. I. Crime Reports,[33] in 1954 the ratio of Negro crimes to White crimes was as follows: for murder, 16 to 1; for robbery, 13 to 1; for prostitution and vice, 16 to 1; for rape, 6 to 1.

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[32]W. A. Bonger 1943 *Race and Crime.* Columbia University Press.
[33]Uniform Crime reports of the U. S. Dept. of Justice, v. 25, no. 2.

Negroes constitute about 10% of the population, and yet according to the F.B.I. Crime Reports[34] for the year 1955, 64% of arrests for dope violations were Negroes, 64% for aggravated assaults, 60% for murders, 59% for prostitution and vice, 51% of arrests for robbery, 43% of arrests for rape. For the year 1956[35] the figures are very similar: 61% of arrests for dope violations were Negroes, 68% of arrests for aggravated assaults, 66% for murders, 48% for prostitution and vice, 52% for robberies, 45% for rape. The Uniform Crime Reports[36] for 1960 tell the same story. Figures, broken down by race, are given for arrests in 2446 cities with populations of 2500 or more and with a combined total population of 73,473,751. The figures show that although the Negroes constituted only about 10% of the population, they accounted for arrests for some major crimes of violence as follows: for murder 62%; for robbery 56%; for aggravated assault 62%; for forcible rape 55%. Calculated on the basis of their percent in the population, the ratio of Negro crime to White crime is: for murder 14 to 1; for robbery 10 to 1; for aggravated assault 13 to 1; for forcible rape 8 to 1. Thus we see that a survey of the United States crime reports over a period of 50 years shows a continuing many-times greater prevalence of crimes of violence among negroes than among whites.

As in the case of intelligence test performance, a decade of promotion of race mixing, of eloquence about brotherhood, of insistence upon disregarding facts about differences in races, and above all of efforts to improve the standard of living of the Negro, have not reduced the prevalence of crime or its excess prevalence among the race.

A high rate of crime among Negroes is not limited to the United States. Coincident with the large influx of Negroes from the West Indies and from former African colonies into England, there have been news stories about the increasing incidence

[34] *Ibid.* v. 26, no. 2.
[35] *Ibid.* v. 27, no. 2.
[36] *Ibid.* v. 31, no. 1.

of crime in English cities. In their native haunts, the record of Africans is even worse than elsewhere. We should not forget the record of the Mau Mau gangs in Kenya during the early 1950s when they murdered, raped, pillaged, tortured, and burned. Albert J. Meyers, writing in *U.S. News and World Report* for July 24, 1961, reports the state of uneasiness and terror at the prospect of a return of those conditions as the time approaches for independence and with withdrawal of British troops.

The homicide rate among South African natives has been reported to be 171 per hundred thousand, much higher than the commitment rate for all felonies among American Negroes (Laubscher[37]). The murder rate in Johannesburg is reported to be almost three times the rate for New York City.

Anyone familiar with the foregoing evidence, and there is much more, can scarcely deny the existence of important differences between Whites and Negroes in intelligence, in personality, and in behavior.

We must now turn to a consideration of the degree to which these differences may be attributable to inherent morphological rather than to environmental causes.

IV

PHYSICAL BASES FOR INTELLECTUAL AND BEHAVIORAL DIFFERENCES

Are there hereditary structural and other biological differences between individuals and races that might serve to explain the observed differences in intelligence and in behavior in those areas of activity that make western civilization? The presence of such differences is not only a reasonable expectation but is supported by evidence.

It is well known that in the more sharply contrasting areas of comparative behavior in animals, specific behavioral traits

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[37]B. J. F. Laubscher 1938 *Sex, Customs and Psychopathology: A Study of South African Pagan Natives.* R. M. McBride and Co., New York.

are related to specific physical structure. Different groups of animals vary in the importance of specific sensory or motor functions in the various modes of life evolved by the groups. It is likewise well known to comparative neurologists that in these different groups, animals that have a high proficiency in particular functions also have a high development not only of the specific organs involved but also of those areas of the central nervous system related to the specific functions. This may be illustrated in animals of widely differing types. In birds of prey like the eagle and the hawk, balance and fine coordination in muscular activity and keenness of vision are of prime importance, and the cerebellum and the optic centers are correspondingly highly developed and large. By way of contrast, in the mole, balance and fine coordination of muscular activity are of far less importance than in hawks and eagles, and the cerebellum is correspondingly smaller. In the mole, vision is of no importance and both eyes and the optic centers in the brain show a minimal development. In the mole, well developed olfactory centers go along with the great importance of the sense of smell. These differences exhibit themselves before birth.

When we compare more closely related animals that are less radically different in their modes of behavior, the different races of men, for example, the dissimilarities in brain structure are less obvious and require more expert searching to discover. This is especially true regarding those human structural variations that show up as relative frequencies.[38] However, there are im-

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[38]The terms "frequency", "average", "overlap" and "quantitative" may require further clarification for the layman. "Frequency", as used in this report, defines how often the trait or characteristic under consideration repeats itself among the individuals in a group. Obviously, no one individual can ever be an "average" individual, although we speak colloquially of the "average" man. If we say, for example, that the average man in one group is more intelligent than in another, we mean that the frequency with which intelligent individuals occur in one group is greater than in the other.

Overlap enters into the concept of frequency in that overlap defines on a percentage basis the frequency with which, for example, individuals in one group surpass the median of intelligence in the other.

portant observations that supply an answer to the question asked at the beginning of this topic. Mall[39] has pointed out that the average brain weight of eminent men is about 100 grams more than the average brain weight of the ordinary white man and the average brain weight of the Negro about 100 grams less. Bean[40] and Connolly[41] have reported differences in the gross morphology of the brains of Whites and Negroes—such differences as the relative size of some areas and the relative frequencies of sulcal patterns. Vint[42] has reported differences in the detailed structure of the cerebral cortex. Reference to these researches will be made again further on.

The significance of these observations to our human problem can be no more adequately or more authoritatively stated than through the use of selected passages from Judson Herrick, one of the world's greatest academic neurologists. Herrick[43] states, "It is obvious from simple inspection that the relative mass of the cerebral cortex corresponds in a general way with the grade of learning capacity and intelligent behavior. This is graphically illustrated by the difference in the relative sizes of the cerebral hemispheres of a man and a kangaroo of about equal body weights. . . . It is clear that learning capacity increases progressively from lower to higher animals and that this increase is

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Similarly the word "quantitative" rather than "qualitative" is often used in scientific writing to describe traits in a population, thereby defining the quantity of individuals having a certain quality.

[39]Franklin P. Mall 1909 On several anatomical characters of the human brain said to vary according to race and sex, with special references to the frontal lobes. *Am. J. Anat.*, v. 9, pp. 1-32.

[40]Robert Bennett Bean 1906 Some racial peculiarities of the human brain. *Am. J. Anat.*, v. 5, pp. 353-432.

[41]C. J. Connolly 1950 *External Morphology of the Primate Brain.* Charles C. Thomas, Springfield, Illinois.

[42]F. W. Vint 1934 The brain of the Kenya native. *J. Anat.*, v. 68, pp. 216-223.

[43]C. Judson Herrick 1956 *The Evolution of Human Nature.* University of Texas Press.

dependent upon enlargement and especially upon differentiation of the cortex." (p. 385).[44]

Elsewhere, Herrick[45] says: "There is evidence in higher mammals that the frontal lobes have a unique significance in the learning process." (p. 177). "The tremendous enlargement and complication of this mechanism [mechanism of learning] as we pass from the highest living brutes to the lowest surviving races of men is indicative of a gap in the phylogenic series of wide extent." (p. 220). "The process of cortical differentiation culminates in the human brain, where upward of fifty cortical areas can be distinguished by differences in anatomical structure." (p. 236).

"There is unquestionably mosaic localization of certain physiological functions in the human cerebral cortex. . . . The projection centers . . . are definitely localized in mosaic patterns. Surrounding each of the sensory projection areas is a zone of associational cortex in whose activities the functions of the contiguous centers are dominant." (p. 249). "The enormous increase in the size of the human cortex is chiefly in the associational fields. Here, then, is to be sought the structural organization upon which depend human culture and the progress of civilization. The features that most distinguish these associational fields from the rest of the cortex is their greater wealth of strictly intracortical connections." (p. 265).

". . . We can now say that the human cerebral cortex is the specific organ of civilization, and whether this civilization is beneficent or malevolent is determined (in part) by the bodily organization of its component individuals, and in particular of their cortical organization. Foresight, purpose, and the ideals

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[44]Brodmann has pointed out that the prefrontal area, which constitutes 3.4 percent of the cat brain, makes up 16.9 percent of the chimpanzee's and 29 percent of man's. See Wilder Pennfield and Theodore Rasmussen 1957 *The Cerebral Cortex of Man,* p. 206. The Macmillan Company.

[45]C. Judson Herrick 1926 *Brains of Rats and Men.* University of Chicago Press.

towards which we strive as individuals and as nations are functions of this same cortical gray matter." (p. 20).

Halstead,[46] biopsychologist at the University of Chicago, writes: "The frontal lobes are the portion of the brain most essential to biological intelligence. They are the organs of civilization, the basis of man's . . . hope for the future." (p. 149). And Pennfield[47] and Rasmussen say: "The whole anterior frontal area, on one or both sides, may be removed without loss of consciousness. During the amputation the individual may continue to talk, unaware of the fact that he is being deprived of that area which most distinguishes his brain from that of the chimpanzee. After its removal, there will be a defect, but he may well not appreciate it himself. The defect will be in his ability to plan and take initative . . . , although he may still be able to answer the questions of others as accurately as ever." (p. 226).

Pennfield, in describing the effects of such an operation performed upon his sister, comments: "Careful study after operation—both in hospital and in her home—demonstrated no alteration in behavior, except an 'impairment of those mental processes which are prerequisite to planned initiative.' This is a defect which may easily be overlooked but which is of the utmost importance. The patient was the sister of one of the authors (W. P.) and he was able to watch her in her home, supervising her six children, talking and laughing at the dinner table, perfectly normally, as she would have done ten years earlier. She had not forgotten how to cook, but she had lost the capacity of planning and preparing a meal alone." (p. 193).

From the standpoint of comparison of gross structure of brains of Whites and Negroes there are three American investigations that require consideration here. The first of these

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[46]Ward C. Halstead, *Brains and Intelligence* 1947 University of Chicago Press.

[47]Wilder Pennfield and Theodore Rasmussen 1957 *The Cerebral Cortex of Man.* The Macmillan Company.

(Bean)[48] was based upon a study of a large number of brains of American Negros and Caucasians (brains selected for purity of line). Bean reports that the association centers and the whole frontal lobes are smaller on the average in the Negro than in the Caucasian. On page 375 he states that there is a greater number of large frontal lobes among the Caucasian brains examined (66 large, 22 small), and a greater number of small frontal lobes among the Negro brains (106 small, 59 large).

Three years after Bean's study was published, Franklin P. Mall[49] published the results of another study, based on a smaller number of brains. He found that in some collections of brains there were marked differences, in others none. He did not find structural differences that were sufficiently constant to permit distinguishing brains of Whites from brains of Negroes—because of the great variation within each race. Mall found that the size of the frontal lobe in relation to the total brain varies considerably among individuals ranging from 38% to 49% of the total brain. He did not confirm Bean's report of the relatively smaller size of the frontal lobes in the Negro brain (relative to the total size of the brain), although he did recognize the average smaller size of the Negro brain. He did not report any observations on the size of the association areas. *Mall did not look for racial averages and frequencies* but for exclusive features that might serve as bases for classification. These he did not find.

A more recent and extensive comparative study of human and sub-human brains has been done by Cornelius J. Connolly,[50] Professor of Physical Anthropology in the Catholic University of America. Connolly's judgment concerning the comparative external morphology of the brain can best be indicated by quoting some of his statements: "Comparing the two large groups

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[48]Robert Bennett Bean 1906 Some racial peculiarities of the Negro brain. *Am. J. Anat.*, v. 5, pp. 353-432.

[49]Franklin P. Mall 1909 On several anatomical characters of the human brain, said to vary according to race and sex, with special reference to the frontal lobe. *Am. J. Anat.*, v. 9, pp. 1-32.

[50]C. J. Connolly 1950 *External Morphology of the Primate Brain.* Charles C. Thomas, Springfield, Illinois.

of Whites and Negroes, while the variability is large and there is much overlapping, the mean values reveal significant differences. (p. 146).

"As to racial differences, no morphological feature was found to be exclusively characteristic of either the White or the Negro brain. It would be quite erroneous, however, to conclude from this fact that cerebral differences do not exist in the two races. There is first of all a difference in the frequencies of morphological features in the sulcal pattern . . ." (p. 258).[51] "Frequency differences are what one might expect in racial studies of the brain. For just as with external somatic characters no one physical character—not even skin color—is diagnostic of a particular race, but rather the combination of a number of characters, so no particular character of the brain is always diagnostic of the race" (pp. 261-262).

Connolly continues: "It can be said that the pattern of the frontal lobes in the White brains of our series is more regular, more uniform than in the Negro brain. . . . The White series is perhaps slightly more fissurated and there is more anastomosing of the sulci." (p. 203). "The significance of these differences [in the fissural pattern and in other morphological differences] will be better appreciated when more is known of the functions of the various parts of the brain" (p. 263). This final comment by Connolly was published in 1950. Pennfield's studies, now considered in the forefront of research on the subject, were

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[51]It is of interest here to note Brodmann's estimate that no less than 64 percent of the total surface of the human cerebral hemisphere is hidden in the fissures as against 7 percent in the lowest monkey. (See Wilder Pennfield and Theodore Rasmussen 1957 The *Cerebral Cortex of Man,* p. 206. The Macmillan Company.) Since sulcification is the result of fissural folding, the degree of sulcification may be taken as one measure of evolutionary development. Connolly himself notes: "There is . . . a degree of correlation between the sulcal pattern and the development status in the series of primate forms." (p. 360). For an analysis of Connolly's position as a Catholic in the equalitarian climate of the time, see Carleton Putnam's speech at Jackson, Miss., Oct. 26, 1961, *Congressional Record,* Jan. 25, 1962, Vol. 108, No. 10, pp. 830-831.

published in 1957. They supply some of the knowledge Connolly lacked.[52]

Concerning Mall's failure to confirm Bean's findings with regard to the frontal lobes, Connolly suggests the possibility that Mall's material might have been less representative of the Negro race, as no special selection was made of the material and it might have included mulattoes.

Bean's conclusion that the anatomical evidence suggests that "the Negro has the lower mental faculties (smell, sight, handicraftmanship, body sense) well developed; the Caucasian the higher (self-control, will power, ethical and esthetic senses and reason)" seems to be in harmony with common observation and with the conclusions of competent psychologists and psychiatrists. For example, Carothers[53] states: ". . . The African, with his lack of total synthesis, must, therefore, use his frontal lobes but little, and all the peculiarities of African psychiatry can be envisaged in terms of frontal idleness" (p. 157).

Shuey[54] states that several authors have found the "colored relatively better on common-sense, concrete material than on tests involving abstract concepts." She reminds us that Yerkes[55] says ". . . the Negro, as compared with the white man of equal intelligence, is relatively strong in language, in acquaintance with verbal meanings, in perception and observation; and he is relatively weak in judgment, in ability to analyze and define exactly, and in reasoning" (p. 187). Shuey states also that, "Graham considered the colored to be best in tests of a practical nature and poorer in tests involving discrimination and critical accuracy; and Schwegler and Winn concluded that the colored are about three-fifths as successful in tests of adjustment to unfamiliar situations and those involving abstract reasoning, but do about as well in direct reproductive memory, in common sense adjustments and in common sense verbal facility" (p. 25).

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[52]See *supra*, pp. 29-30.

[53]J. C. Carothers 1953 *The African Mind in Health and Disease.*

[54]Audrey M. Shuey 1958 *The Testing of Negro Intelligence.* Bell Co., Lynchburg.

[55]R. M. Yerkes (Ed.) 1921 *Psychological Examining in the U. S. Army.* Mem. Nat. Acad. Science.

It seems illuminating at this point to quote again from Judson Herrick[56] "Unquestionably, racial and individual differences in mental capacities and attitudes are correlated with corresponding differences in the bodily organization. It is only a question of learning how to find them. . . ." (p. 387).

In addition to the suggestion of differences in function provided by size and gross morphology of brains of whites and Negroes, microscopic differences have been reported—possibly of greater significance than the gross differences. F. W. Vint,[57] of the Medical Research Laboratory, Kenya, Africa, made a histological examination of the cerebral cortex of 100 representative adult native brains (not including any cases from prisons or mental hospitals). He states: "The cortical measurements of the native show that, except in the visuo-sensory area (area 7), the lamina zonalis [a fiber layer] is in every case greater than in the European brain, whereas the measurement of the supragranular layer is smaller. . . ." Cell counts per unit area are the same in African and European brains.

It is proper to ask, What significance is there in the reduced thickness (about 14%) of the supragranular layer of the Negro cortex? Strong and Elwyn[58] state that the supragranular layer, "which includes layers II and III [of Brodmann] is the latest to arise, most highly differentiated and most extensive in man. The fibers which they receive or send out are chiefly associate in character." (p. 405).

Kappers, Huber, and Crosby[59] report similar conclusions: "The higher associative and receptive character of the supragranular layers is indicated by the fact that the corpus callosum

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[56]C. Judson Herrick 1956 *The Evolution of Human Nature.* The University of Texas Press.

[57]F. W. Vint 1934 The brain of the Kenya native. *J. of Anatomy,* v. 68, pp. 216-223.

[58]Oliver S. Strong and Adolph Elwyn 1953 *Human Neuroanatomy.* Williams & Wilkins, Baltimore.

[59]C. U. A. Kappers, G. Carl Huber, and Elizabeth Crosby 1936 *The Comparative Anatomy of the Nervous System of Vertebrates,* vol. II, Macmillan.

fibers terminate in the supragranular layers, although, as has been seen, they arise from the infragranular layer.

"Valkenburg . . . found that superficial experimental lesions of the supragranular layer produce changes in the cortex, while they do not affect the subcortical regions. This suggests strongly that the upper cortical layers form a unit in themselves. Bielshowsky ('16) emphasizes the associative functions of the supragranular pyramids, and Bolton's ('03) observations on the atrophy of these layers in cases of extreme idiocy are in conformity with the conception of the associative and receptive character of this layer." (p. 1571)

Furthermore, *Quain's Anatomy*[60] is authority for the following: "Hammarburg[61] found that a comparatively small diminution in the development of the cortical cells was sufficient to reduce the intelligence to moderate imbecility. As the total weight of these cells is relatively so small, their moderate diminution would not reduce the brain-weight beyond a very moderate range of variation." (p. 344) As demonstrated by Vint, they are reduced in Negroes by about 14% in the supragranular layers.

It would be a mistake to believe that man thinks and learns exclusively with the supragranular layer or with the associational areas of his cerebral cortex, or indeed with his entire cortex or whole brain, but with his whole being. To quote Herrick[62] again, "Mentation is a total pattern, and as such it may use any or all of the organs of the body. We feel and think all over, just as a bird flies all over. But in the bird some parts of the body are more especially related to flight than others, and similarly in man some organs have specific and crucial parts to play in mentation and in particular kinds of mental activity." (p. 411). ". . . but the higher psychoneural

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[60]Quain's *Anatomy,* v. III, pt. 1, Neuroanatomy 1908. Longmans, Green & Co.

[61]Carl Hammarburg 1895 Studien uber Klinik und Pathologie der Idiote nebst Untersuchungen uber die normale Anatomie der Hernrinde. Uppsala.

[62]C. Judson Herrick 1956 *The Evolution of Human Nature.* The University of Texas Press.

functions which emerge in consciousness as perceptions, reasoning, and intelligently directed purposive conduct, require the participation of more or less of the homotypical cortex of the so-called associational areas" (p. 415). "There is ample evidence that in the human cortex there are many areas, each of which acts as the dominant center for some distinctive kind of mental process" (p. 424).

The structural features, both known and unknown, of the brain and of the whole body are important because they constitute the physical basis of the total behavior pattern. We will now examine in some detail the bearing of heredity upon these features.

V

GENETICS, BEHAVIOR AND BREED DIFFERENCES IN ANIMALS

That clearly recognizable physical differences may be hereditary is seldom denied, perhaps because the facts are so constantly before our eyes. But many people are reluctant to recognize that the genetic influence on human character extends to the minute structure and chemistry of the body, to intelligence, behavior, and personality. Regarding this subject, Sir Julian Huxley,[63] British biologist, writes:

". . . The enormous phenotypic differences, in individual and social group achievement, are of course obvious. At the moment, it is socially and intellectually fashionable to minimize or even to deny such differences. This is sometimes done in the name of democracy, or because of the hypnotic effects of the ideas of the American and French revolutions concerning the equality of man, or as a misinterpretation of the Christian doctrine, or in natural reaction against the errors of racism, and of eugenics when treated as a dogma and not as an applied science."

[63] Julian Huxley 1950 *Genetics in the 20th Century*. The Macmillan Co. (The quotation is from an address presented by invitation on the program of the Golden Jubilee of Genetics, Ohio State University, September 11-14, 1950.)

". . . We can look forward with confidence to being able to map the distribution in the population of the genetic bases of various important properties—intelligence, resistance to various diseases, longevity, temperament, and so forth." (p. 613).

The layman's day by day observation provides evidence that is convincing to some people, not to others, that qualities of mind and behavior are largely determined by heredity. What seems needed in our present crisis is scientific evidence regarding this question. Precise experimental data regarding the inheritance of mental and behavioral abilities and tendencies in man is limited for two reasons, 1) the virtual impossibility of subjecting people to the rigid controls required for a valid scientific experiment; 2) the long interval between generations. There is valid evidence, however, from other animals, including mammals.

A friend who does research in genetics has grown individual pigeons from the time of hatching in cages along with rabbits. Although they have never seen another pigeon, they develop behavior patterns characteristic of pigeons. Among other lower animals some behavior patterns are so distinctive that they are used along with morphological features as bases for classification. N. Tinbergen,[64] lecturer in animal behavior at Oxford University, discusses this matter. He reminds his readers that "Behavior always involves complex machinery," and that "Today behavior characters of many different kinds are known." He cites a number of examples, among these, the characteristic of the Shetland wren to choose a single mate in contrast with other groups of wrens that are polygamous. He states also that the "tendency to learn in many species is confined to certain situations or internal conditions, and these may be very different in different species."

It is important, of course, to have experimental evidence to supplement simple observation.

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[64]N. Tinbergen 1960 Behavior, systematics, and natural selection. Pp. 595-629 in *Evolution after Darwin,* vol. 1 of *The Evolution of Life.* University of Chicago Press.

So far as fundamental data and principles are concerned, a series of experiments has been done on dogs that is almost as valuable as if done on humans. This is the work carried out by the late Dr. Charles R. Stockard[65] and his associates at the Cornell University Medical School and at the animal farm. The research group consisted of an anatomist-biologist (Dr. Stockard), a histologist (Dr. E. M. Vicari), a psychologist (Dr. W. T. James), and an endocrinologist (Dr. O. D. Anderson). Their results are of primary concern in understanding many human problems, including the race problem. I shall therefore devote considerable space to reporting their findings.

A. The Findings of Stockard and Associates

As for the purposes of the investigation, Dr. Stockard says, "It should be clearly understood that our aim is to give an experimental analysis of constitution in a comprehensive manner and not simply to report on the genetics of isolated characters among dogs. . . . The considerations must involve the inheritance and development of the finished type, both from the morphologic and functional standpoints. . . . No other species of mammals represents such wide diversities in structural type and general behavior as are shown among the breeds of domestic dogs." (pp. 8-9.) He points out that it has been demonstrated that behavioral variations are associated with breed differences, and that the mode of behavior thus depends in large part upon the influence of inherited constitutional factors associated with body conformation and build.

Through the technique of cross breeding various pure breeds of dogs with contrasting characters of morphology, temperament and behavior, observing the hybrids of the first and second generations and subjecting them to tests in order to measure their responses, the investigators found:

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[65]Charles R. Stockard 1941 *The Genetic and Endocrine Basis for Differences in Form and Behavior.* The Wistar Institute of Anatomy and Biology, Philadelphia.

1) Individuals of the first generation of hybrids from a pair of parents of different pure breeds were approximately uniform in appearance, temperament and behavior, and showed an assemblage of characters from both parents in accordance with the Mendelian principles of recessiveness and dominance.

2) In the second generation of hybrids, produced from interbreeding members of the first generation, there resulted a segregation of contrasting characters among individuals in accordance with the principles of Mendelism. *This was true not only for structural characters but also for features of temperament and behavior.*

3) The endocrine glands play an important role in the nervous responsiveness of dogs. This inherited pattern of the internal secretions may differ but slightly between one normal individual and another and, consequently, behavior may deviate but little from one to the other. But when the pattern is a markedly distorted one, the individual's behavior may show correspondingly great deviations from the normal.

B. Relation of Morphology to Behavior Traits in Different Breeds of Dogs

"The German shepherd dog," writes Stockard, "differs from the bassethound in almost all characteristics. . . . When trained to hunt, "they [German shepherds] hunt and run with the head lifted instead of with the nose to the ground and do not bark while trailing and hunting the prey, though they may bark when they are close in and the prey is at bay. They also offer a sharp contrast to the bassethound in instinctive behavior and posture. The bassethound is much less active and less excitable than the shepherd, being more inhibited. . . ." The first generation hybrids from a cross of these two pure breeds "are more active than the bassethound, but when running free to hunt, or when led on a leash, drop their heads down and scent with the nose to the ground just as does the bassethound parent. The voice

and barking reactions are not completely houndlike, yet are fuller and somewhat different from the shepherd." Some characters of the shepherd were dominant, some of the bassethound, some blended. Without exception they were shepherd coated and colored but were short-legged with hanging ears, and physically were hound-like rather than shepherd. The tail was carried in a shepherd-like manner.

In second generation hybrids, the characters of short legs or long legs sorted out according to the expected Mendelian ratio; likewise in backcrosses of first generation hybrids with pure shepherd stock. Also, a number of other contrasted characters from the parent stocks were redistributed and often occurred in new combinations among the second generation hybrids. Some of the second generation hybrids were excitable in behavior, resembling the shepherd grandparent, others were less active and less nervous, approaching the bassethound in disposition.

First generation hybrids back-crossed with the shepherd showed reactions in accord with the principles of Mendelian segregation. Similar results were obtained with other breeds. (pp. 48-64.)

Dr. W. T. James, the psychologist of the group, reported that: Since the bassethound and German shepherd differ so widely in behavior, and are entirely opposite in physical form, hybrids derived from crossing these two pure breed animals were analyzed to see how modification of the physical form by cross breeding affected the behavior. Theoretically, first generation hybrids should inherit the same factors from both parents, and for this reason should be similar to each other in physical form, or have no more variation than is found among members of one breed. Thus the bassethound-shepherd first generation hybrids were similar in physical form, size, coat, texture, and color, and all had short legs, although not so extreme as those of the bassethound parent. Each member of the group had the long, drooping ears of the bassethound.

In the experiments on behavior, none of the first generation hybrids was classified with the typical bassethound or German shepherd parent. Although individual differences were found among these hybrids, these were no wider than found for the bassethound and German shepherd parents. There was not only homogeneity among members of the group, but also a rather harmonious blending of behavior-determining factors in each dog as well as those determining physical form.

When the short-legged first generation hybrids were mated among themselves, the second generation showed a clear-cut redistribution of the contrasted grand-parental characters in the expected Mendelian ratio of 3 to 1. *There was a sorting out of behavior patterns too.* A dog might inherit the bodily form of the bassethound, yet behave like the excitable shepherd dog under experimental conditions. Others seemed to have mixed physical features and mixed behavior patterns.

Among hybrids of the second generation, there might be great resemblances in bodily form, yet wide divergence in behavior. Among the bassethound-German shepherd second generation hybrids, some dogs were as inactive as the bassethound grandparent and some as active as the German shepherd grandparent. (pp. 603-636.)

In addition to the bassethound-German shepherd crosses, various other contrasting breeds of dogs were crossed and studied under controlled conditions: bassethound-Saluki, bassethound-English bulldog, dachshund-Pekingese, dachshund-Boston terrier, dachshund-French bulldog, dachshund-Brussels griffon, Pekingese, Saluki, English bulldog-German shepherd, Pekingese-poodle.

We can here review briefly only some of these crosses. Crossing the English bulldog with the bassethound resulted in physically rather well balanced first-generation hybrids, intermediate between the two parents.

As in the case with the bassethound-shepherd cross, there was wider variation in physical form among individuals of the sec-

ond-generation hybrids than among the first-generation hybrids. Behaviorally, the hyper-excitable nature of the English bulldog parent was absent in the first generation, but individuals of the second generation of hybrids showed highly mixed behavioral reactions as a result of Mendelian segregation of characters. Where there was a greater variety in physical form and glandular conditions, there was also a greater variation in behavioral natures. (pp. 620-623).

In crosses of the midget Brussels griffon and the dachshund it was found that: "In general behavior, the F_1 [first generation] hybrids show a variety of combinations derived from both parents. They are very nervous and restless and almost constantly on the run . . .; but at the same time they are extremely shy and snappy towards people, resembling the dachshund." (p. 339).

In crosses of the Boston terrier and dachshund, Stockard noted: ". . . a cross between these two stocks . . . may give rise to a first generation of hybrids with fairly well balanced physical types and vigorous functional reactions. Individuals of this generation may even be, in some respects, physically superior to either parent stock. . . . The off spring from these vigorous first generation hybrids are highly hetergeneous in type, scarcely two of them are closely alike and the great majority are defective in both their morphologic quality and functional reactions. Prenatal mortality among these F_2 hybrids is high; stillbirths are common and many are viable for only a short time after birth. . . . The majority of the viable members of the second hybrid generation are unstable and defective in behavior." (pp. 490-491).

C. Physical and Behavioral Disharmonies

Our experimenters concluded generally from their study of crosses that hybrids resulting from crossing strongly contrasting breeds often show physical and behavioral disharmonies. Their conclusions in regard to this has been briefly put by James: ". . .

It may be assumed that in the two pure behavioral types the genetics of each system is different, and the interaction between the genetic factors and the glandular processes also differs. Within the pure behavioral types there is a harmonious relationship between behavioral systems and the other bodily organs. This holds both for the inactive and the active types. Among the hybrids, however, in which there is mixed physical form, there is also disharmonious relationship between the bodily organs and the reaction systems. . . . *The factors which influence behavior become mixed and varied, just as do those which determine physical form.* In the mixed types, the harmonious relationship found within each pure behavioral type is broken up, and the result is disharmony among the systems. . . ."

"Within an organism the action of each system bears a relationship to the others, and this relationship differs for the pure and mixed type dogs." (pp. 641-643).[65a]

In regard to the underlying nature of fundamentally different modes of behavior, Dr. Anderson, the endocrinologist of the group, says that the results of the various phases of the investigation lead to the general conclusion that the endocrine glands play an important role in the nervous responsiveness of dogs,

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[65a]The undesirable results of the inheritance in hybrids of disharmonious physical features and patterns of instinctive behavior have been observed in man also. Note the statement by Gates: "In the newer countries, such as North and South America, the cross bred races which have sprung up through miscegenation between Europeans and some primitive peoples are at a disadvantage from many points of view. Besides the social failure of adjustment, physical disharmonies result, such as the fitting of large teeth into small jaws, or serious malocclusion of the upper and lower jaws; or, as Davenport (1917) points out, large men with small internal organs or inadequate circulatory systems, or other disharmonies which tax the adjustability of the organism and may lead to early death. Segregation of characters thus results in a motley assortment of types, with some primitive and some advanced mental, moral, or physical qualities in place of the original more or less blended condition in the first generation of the cross." R. Ruggles Gates 1929 *Heredity in Man.* Constable. See p. 329.

For further details and bibliography, the reader having special interest in the genetics of race crossing is referred to a recent monograph by Professor Gates: R. R. Gates, *Race Crossing,* part 2 of *De Genetica Medica,* Istituto G. Mendel; Rome, Italy.

and he states that "the thyroid and pituitary of the German shepherd are histologically different from the thyroid and pituitary of the English bulldog. Similarly, these glands are modified in characteristic manner in the Bassethound and in the St. Bernard. Differences in the histology of the same gland in different breeds may be interpreted as signifying possible differences in the level or the quality of the secretory activity of the gland. This suggests also that the characteristic types of behavior seen among the various breeds might be dependent upon differences in glandular quality and activity." (p. 648).

Following this same line of thought, Dr. Stockard, the senior investigator, remarks, "The further these studies progress the more certain it becomes that along with structural qualities, the functions and behavior of individuals are the products of a definite genetic constitution interacting with a correlated chemical environment, regulated to an important degree by the endocrine glands. This position has gradually been reached through the recently accumulated knowledge of genetics and the illuminating experimental studies of many workers on the influence of the endocrine secretions on the growth processes and the functional reactions of the organs and tissues of the body. Slight disturbances, as well as normally rhythmical variations in endocrine secretions, bring about prompt modifications and alterations in the functional reactions of the tissues, and particularly in the instinctive behavior and the reactions of the nervous system. . . ."[66] (p. 24).

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[66]William C. Dilger, assistant professor of ornithology, Cornell University at Ithaca, discovered and recorded examples of dramatic disharmonies in contrasted behavior-traits in birds. There are nine recognized species of the African parrot (lovebird). Four species are known to carry nest-building materials thrust amidst the feathers. Four others carry material only in the bill. Dilger hybridized individuals with these contrasting behavior traits. The results: "Hybrids between *fisheri* (carries nest material one piece at a time in the bill) and *roseicollis* (carries several pieces at a time amidst the feathers of the lower back and rump) have been obtained. . . . These hybrids show intermediate behavior and neither parental method is utilized efficiently although the only successful carries are made with material in the bill. The hybrids almost always attempt to tuck before carrying in the bill. They are never suc-

D. Corroboration by Others

The findings of Stockard and his collaborators on the genetics of behavior do not stand alone. Work along this line has been continued at the Roscoe B. Jackson Memorial Laboratory under the leadership of John L. Fuller. After reviewing the work of others on the component of heredity in learning, Fuller[67] and Scott state, "In general, the evidence on interspecific differences in patterns of behavior indicates that the influence of biological heredity is very strong, particularly in basic patterns of social behavior. Individuals tend to develop the characteristic patterns of behavior of their respective species in spite of profound modifications of the environment. . . . Biological heredity produces great differences between species in learning capacities, operating through limitations of sensory and motor apparatus, as well as patterns of behavior."

In regard to the existence of genetic differences not only between species but between races, breeds and strains within species, Fuller and Scott state, "Thus there is abundant evidence of the existence of genetic differences in patterns of behavior within species. These differences consist chiefly of variability in drives and emotions rather than any fundamental modification of the nature of the behavior patterns themselves. . . ."

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cessful at carrying in this fashion. . . . Their success did not increase after they were given the opportunity to learn from both parental types."

Later, after further observation of the same phenomena, Dilger says: "Hybrid lovebird inherits patterns for two different ways of carrying nest-building materials. From the peach-faced lovebird it inherits patterns for carrying strips several at a time, in the feathers. From Fisher's lovebird it inherits patterns for carrying strips one at a time, in the bill. When the hybrid first begins to build a nest, it acts completely confused. . . . It takes three years before the bird perfects its bill-carrying behavior, and even then it makes efforts to tuck its nest materials in its feathers." William C. Dilger 1959 Nest material carrying behavior of hybrids between *Agapornis fisheri* and *A. roseicollis. Anatomocal Record,* v. 134, p. 554. William C. Dilger 1962 The behavior of lovebirds. *Scientific Am.* (January), pp. 89-98.

[67]John L. Fuller and J. P. Scott 1954 Heredity and learning ability in infrahuman mammals. *Eugenics Quarterly,* v. I, pp. 28-43. (Presented at a symposium on genetics factors affecting intelligence at the 1933 meeting of the AAAS.)

"Whenever the student of behavior has looked for genetic differences in capacity or type of response, he has found them. It is likewise true that the physiologist who compares different species or different strains within a species finds that the genes have an influence upon diverse organic processes of the body. . . ."

Somewhat later, Fuller[68] re-emphasized the point: "So widespread are the relationships between heredity and behavior that I know of no properly designed selection program which has been unsuccessful, nor do I know of any extensive sampling of strains which has failed to find behavioral differences which can be readly measured. . . . The inheritance of quantitative behavioral traits is as lawful as the inheritance of physical characteristics. . . . We must avoid the error of over-simplifying man. But we must also avoid the error of not recognizing the biological basis of many human drives, and the genetic basis of human biology."

VI

INHERITANCE OF INTELLIGENCE AND BEHAVIOR IN MAN

There is no reason to believe that in man the genetic factor in intelligence and behavior is significantly different or less important than it is in dogs and other experimental animals. Controlled experiments, such as those directed and reported by Stockard and by Fuller, cannot be done with humans and so we cannot have the same sort of experimental data. However, there is evidence, very convincing evidence, concerning the role played by heredity in determining intelligence and the nature of behavior in man.

A. The Genetics of Genius

In 1869 Francis Galton[69] published an epochal book, *Hereditary Genius,* which was a pioneer study in this field.

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[68]J. L. Fuller 1957 Comparative studies in behavioral genetics. *Acta Genetica et Statistica Medica,* v. 7, pp. 403-407.

[69]Francis Galton 1869 *Hereditary Genius.* Edition of 1892, reprint of 1925, by C. A. Watts & Co.

Although he knew nothing at the time about the mechanism of heredity, present day knowledge of genetics provides a foundation for and explanation of Galton's observations and conclusions. His plan of investigation was to examine the genealogical relationships of eminent men in different fields of achievement in order to discover the extent to which eminence runs in families. Selected passages from his book seem to provide the best insight into his contribution to our problem:

"Then I made a cursory examination into the kindred of about four hundred illustrious men of all periods of history, and the results were such, in my opinion, as completely to establish the theory that genius was hereditary, under conditions that require to be investigated." (See preface to original edition.)

"When I speak of an eminent man, I mean one who has achieved a position that is attained by only 250 persons in each million of men, or by one person in each four thousand" (p. 9).

"How much of a man's success is due to his opportunities, how much to his natural powers of intellect? . . . . By natural ability, I mean those qualities of intellect and disposition which urge and qualify a man to perform acts that lead to reputation. I do not mean capacity without zeal, nor zeal without capacity, nor even a combination of both of them, without an adequate power of doing a great deal of very laborious work. But I mean a nature which, when left to itself, will, urged by an inherent stimulus, climb the path that leads to eminence, and has the strength to reach the summit. . . ." (p. 33).

"If I succeed in showing—as I undoubtedly shall do—that the concrete triple event, of ability combined with zeal and with capacity for hard labor, is inherited, much more will there be justification for believing that any one of the three elements, whether it be ability, or zeal, or capacity for hard labor, is similarly a gift of inheritance." (p. 34).

"Social hindrances cannot impede men of high ability from becoming eminent. I shall now maintain that social advantages are incompetent to give that status to a man of moderate ability." (p. 36).

Galton cites evidence to support his conclusions, beginning with England's judges:

"In other countries it may be different to what it is with us, but we all know that in England, the Bench is never spoken of without reverence for the intellectual powers of its occupiers." (p. 49). He then points out that the judges of England between 1660 and 1895 were largely and closely inter-related.

Passing next to English statesmen and reviewing their blood relationship, Galton says: "The combination of high intellectual gifts, tact in dealing with men, power of expression in debate, and ability to endure exceedingly hard work, is hereditary. . . . Table II proves, just as distinctly at it did in the case of the judges, that the nearer kinsmen of the eminent Statesmen are far more rich in ability than the more remote." (p. 104).

With regard to eminence among writers, Galton states that ". . . an analysis of kinsfolk shows literary genius to be fully as hereditary as any other kind of ability we have hitherto discussed" (p. 164) and he illustrates this with notes and genealogical charts of certain families.

He did not treat men of achievement in the arts as fully as he did the previous groups, but did say that ". . . the inheritance of musical taste is notorious and undeniable. . . ." (p. 230). Dobzhansky[70] is authority for a more dramatic illustration than any Galton gave: "Among the fifty-four known male ancestors, relatives, and descendants of J. S. Bach, forty-six were professional musicians, and among these seventeen were composers of varying degrees of distinction. . . . The recurrence of marked musical ability among the relatives of great musicians is so general a rule that exceptions are worthy of notice." The exception that he cites is Schumann among whose ancestors, rela-

[70]Theodosius Dobzhansky 1962 *Mankind Evolving.* Yale University Press.

tives, and children no musical talent is known. It is well established that atypical individuals or "sports" sometimes occur in more or less pure strains.

After analyzing all of the evidence assembled, Galton concludes that it is clear that ability is not distributed haphazardly, but it clings to certain families, as characteristic physical features do. He says, "The son may resemble his parent in being an able man, but it does not follow that he will resemble him in features. I know of families where the children who had not the features of their parents, inherited their disposition and ability, and the remaining children had just the converse gifts. . . ." (p. 322). Although less precisely observed, understood, and recorded than by Mendel, Galton was here obviously observing the operation of the Mendelian law of segregation of characters.

Other people have made similar studies with similar results. A few generations after Galton, Paul Bloomfield[71] wrote a book bringing the English data up to date. He provides the reader with genealogical charts of several notable families and with an informative and readable text. Disregarding men in the fields of politics and government, I shall call attention only to individuals in two families better known to Americans—individuals whose achievements were in the fields of literature and scholarship, and so less influenced presumably than those in government by the good fortune of being favorites of the powerful:

Sir Julian Huxley and his brother, Aldous Huxley, are grandsons of the great Thomas Huxley and great-nephews of Matthew Arnold. Their father, Leonard Huxley, was editor of Cornhill Magazine.

Erasmus Darwin, grandfather of Charles Darwin and a descendant of Josiah Wedgwood (famous as an ancestor of famous men), was a distinguished man in his own right and a Fellow of the Royal Society. He became the ancestor of R. W. Darwin, Charles Darwin, Sir George Darwin, Sir Francis Darwin, Sir

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[71]Paul Bloomfield 1955 *Uncommon People: A Study of England's Elite.* Hamish Hamilton.

Charles Galton Darwin, Sir Francis Galton (All Fellows of the Royal Society), and other notable people.

The reader may amplify this phase of the subject from his own experience; we turn now to two areas where more specific scientific techniques have been possible.

B. The Genetics of Crime

Evidence for the genetic factor in crime is presented by studies of twins. Professor Johannes Lange[72] of the University of Breslau investigated the histories of more than 30 pairs of twins represented in the Straubing penitentiary. Thirteen pairs of one-egg twins were involved, and both members of 10 pairs had received prison sentences. The same kind of crime was committed by both members of each pair, and at approximately the same age.

Kranz[73] examined 27 pairs of one-egg twins and 37 pairs of two-egg twins represented among the inmates of Prussian prisons. He reported a concordance of 63% within pairs of one-egg twins, and great similarity in their criminal records. Among the two-egg twins there was a concordance of 46% within pairs, and marked difference in criminal records.

An analysis of four separate studies of crime involving 151 pairs of twins may be found in Newman's[74] *Multiple Human Births.* The great importance of genetic constitution is indicated by the fact that there was no greater resemblance in criminal careers between those twins who remained in the same community than between those who were geographically separated at the time when they began their criminal careers, and by the further fact that the ratio of concordance to discordance in criminal careers was nearly four times as high among one-egg twins as among two-egg twins.

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[72]Johannes Lange 1934 Studies of criminal tendencies in twins. Foreign Letters, *J. Am. Med. Assn.*, v. 102, p. 1098.

[73]H. Kranz 1934 Criminality in twins. Foreign letters. *J. Am. Med. Assn.*, v. 103, p. 1080.

[74]H. H. Newman 1940 *Multiple Human Births.* Doubleday, Doran and Co.

L. S. Penrose,[75] Galton Professor of Eugenics, University College, London, although apparently reluctant to do so, states that, "such broad familial studies as have been recorded indicate that genetical influences are probably important in criminal behavior . . ." and he points out that in crime as well as in physical and mental traits one-egg twins are usually essentially alike.

C. The Genetics of Mental Abnormality

No one who is acquainted with the correlation between chromosomal irregularities and the existence of mongolism or the existence of the Klinefelter syndrome (in which there is regularly an XXY component of sex chromosomes) can accept the view that genetics is unimportant in the origin of the human psyche.

In a recent study by Moorhead, Mellman and Wenar,[76] they report the investigation of a family "in which an autosomal translocation and total complement of 45 chromosomes has been found in the mother and in four of her six offspring. The father and the fifth child are karyotypically normal, and the youngest child is mongoloid with trisomy for chromosome no. 21, and does not possess the translocation."

"The four children with the translocation chromosome have varying degrees of mental retardation with the most striking feature being a failure of speech development." The fifth child, found to be karyotypically normal with all 46 chromosomes accountable, was the only child approximately normal in intellect and behavior, like the father.

We may note also the work of Dr. Franz Kallmann[77, 78] on the genetic basis for the mental disease known as schizophrenia.

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[75]L. S. Penrose 1955 Genetics and the criminal. *British J. of Delinquency*, v. 6, pp. 15-25.

[76]F. S. Moorhead, W. J. Mellman, and Charles Wenar 1961 A family chromosome translocation associated with speech and mental retardation. *Am. J. Human Genetics*, v. 13, pp. 32-46.

[77]Franz J. Kallmann 1946 The genetic theory of schizophrenia. *American J. of Psychiatry*, v. 103, pp. 309-322.

[78]Franz J. Kallmann 1946 Heredity and eugenics. *Am. J. Psychiatry*, v. 103, pp. 513-515.

Upon surveying the family connections of a large number of cases, Kallmann found that ". . . the incidence of schizophrenia tends to be higher in blood relatives of schizophrenia index cases than it is in the general population." Much more impressive is his statistical study of the disease in twins, a study organized with the cooperation of all mental hospitals under the supervision of the New York State Department of Mental Hygiene: "The total number of schizophrenic index cases, whose co-twins were available for examination at the age of 15 years, was 794" (174 pairs of one-egg twins and 517 pairs of two-egg twins). "The difference in morbidity between dizygotic and monozygotic co-twins approximates 1 to 6. An analysis of common environmental factors before and after birth excludes the possibility of explaining this difference on non-genetic grounds." The difference between dizygotic and monozygotic co-twins increases to a ratio of 1 to 55 if the similarities in the course and outcome of the schizophrenia are taken as additional criteria of comparison.

Kallmann's observations and conclusions on the occurrence of schizophrenia in twins have been confirmed by other workers, but on less extensive material. The great significance of the co-twin studies lies in the assumption (universally accepted among embryologists) that both members of a pair of monozygotic, or one-egg twins have identical, or almost identical, genetic composition and that dizygotic twins do not.

Discussing the etiology of mental retardation, Goodman and Herndon[79] say: "Genetic factors play a role in the causation of many types of mental retardation and are contributory to many others. . . . The fact that the absolute number of undifferentiated patients in [table] II is larger than the number in the familial class agrees with predictions based on the hypothesis that intelligence is a polygenic trait. Few persons would possess genes leading to the development of either high or low intelligence exclusively, and most would have about the average num-

[79]Harold O. Goodman and C. Nash Herndon 1959 Genetic factors in the etiology of mental retardation. *International Record of Medicine,* v. 172, pp. 61-74.

ber. Parents who are mentally retarded have a higher proportion of genes for lower intelligence than do normal parents. Hence a higher proportion of the children of retarded parents are expected and observed to be retarded.

"It has been emphasized that in a large proportion of cases, borderline, and moron intelligence levels are not pathological and represent the chance accumulation of normal genetic factors determining low-grade intellectual ability. . . ."

E. Hanhart[80] of the University of Zurich, Switzerland, studied 45 cases of amaurotic idiocy in 27 families. His conclusion was that an autosomal recessive mode of inheritance can no longer be doubted.

Kozinn[81] and others studied the occurrence over a 12 year period of infantile amaurotic idiocy in New York City and said: "Infantile amaurotic idiocy is transmitted as a recessive trait. The frequency of a person carrying a gene specific for this disease without presently demonstrable alteration in their physical make-up, is estimated as one in 50 for Jews and one in 300 for non-Jews."

Hanhart,[82] in another study, reported on the genetic aspect of a considerable number of cases of microcephaly. He concluded that "Its etiology, though occasionally purely exogenous, seems to be mostly hereditary in the sense of monemeric recessivity. . . . About half of our patients died in early childhood and many die through abortions, the gene involved being semilethal. . . . Among the non-microcephalic sibs of our patients we found a considerable number of feeble minded and borderline cases, showing—but not always—a lessened head circumference."

When one sees at one end of the scale that genius runs in families and at the other end of the scale that microcephaly and

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[80]E. Hanhart 1954 Ueber 27 Sippen mit infantiler amaurotischer Idiote (Tay-Sachs). *Acta Gen. Med. et Gemel.*, v. 3, pp. 331-364.

[81]P. J. Kozinn, H. Wiener, and P. Cohen 1957 Infantile amaurotic idiocy, a genetic approach. *J. Pediatrics*, v. 51, pp. 58-64.

[82]E. Hanhart 1958 Ueber einfache rezessivitat microcephalia vera, Acta Gen. Med. et Gemel., v. 7: pp. 445-524.

amaurotic idiocy run in families, and remembers that crime does also, one can hardly avoid the conclusion that heredity is an important factor in determining the character of a population.[82a]

D. Other Witnesses to the Hereditary Basis for Intelligence and Behavior

Although propagandists for integration and other equalitarian social programs have attempted to lead the public to believe that no scientists hold the view that men are born with different hereditary talents, there are many people of the highest competence and integrity who have informed themselves of the facts, and when they speak as scientists they recognize the importance of heredity as a determiner of intelligence.

John L. Fuller[83] and W. Robert Thompson express the following judgments: "In summary, it may be said that the data gathered with human subjects point to heredity as an important determiner of the intellectual level though certainly not the only one" (p. 207). . . . "In summary, it is clear that the available information on the inheritance of intelligence obtained with animal subjects agrees substantially with that obtained with human beings. . ." (p. 229).

"We have now covered the main body of work, both at the human and animal levels, dealing with the inheritance of personality and temperament. The evidence is strong that heredity plays a large part in the determination of a great many kinds of traits in a wide range of species" (p. 260).

[82a]While it is true that cultural factors influence men and do not influence animals, at least not to the same degree, it is likewise clear that cultures themselves are in part the products of differing genes. Population groups have the capacity for "adopting cultural patterns," as equalitarian social and cultural agents express it, but in certain cases the adoption is parasitic and degenerative and without the capacity either to build or to sustain.

[83]John L. Fuller and W. Robert Thompson 1960 *Behavior Genetics.* John F. Wiley, New York.

R. Ruggles Gates,[84] Professor of Botany, University of London, says: "All those who have any respect for the facts, will agree that men differ in their mentality at least as widely as in their physique. . . . Those who study dispassionately the inheritance of mental differences, normal or pathologic, must conclude, I believe, that those differences are inherited in the same way as are physical (bodily) differences."

J. V. Neel,[85] Professor of Human Genetics, University of Michigan, in discussing Dr. Gates's paper, remarks: "If we are willing to accept intrinsic or genetic factors in the etiology of all manner of neurologic disorders, we cannot logically deny the operation of such factors in the development of mind."

James F. Bonner,[86] Professor of Biology, California Institute of Technology, states that genetic material "possesses the extraordinary power of being able to print copies of itself. These copies are passed on to the next generation. In this way living things leave their descendants directions on how to look, how to behave, how to be."

Curt Stern,[87] Professor of Genetics, University of California, writes: "Men are born genetically unequal. This is a fact of nature, and quite independent of the conclusions which may result from its political and sociological interpretations. . . . If men are unequal genetically, then our actions and inactions are bound to influence the genetic composition of the future human populations." (pp. 78-79.)[88]

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[84]R. Ruggles Gates 1952 *The Biology of Mental Health and Disease,* (chapter 18.) Milbank Memorial Fund.

[85]J. V. Neel 1952 Discussion of Dr. Gates's paper, above.

[86]James F. Bonner *Saturday Evening Post,* April 15, 1961.

[87]Curt Stern 1952 Genetics and the world today; in *The Scientist Looks at Our World.* University of Pennsylvania Press.

[88]On the subject of biological equality Professor Hooton of Harvard speaks with some emphasis: "Whatever may be the sociological value of the legal fiction that 'all men are born free and equal,' there can be no doubt that the author of this phrase deserves above all other men the description *splendide mendax,* translated by the English schoolboy 'lying in state.' In its biological application, at any rate, this statement is one of the most stupendous falsehoods ever uttered by man through his misbegotten gift of articulate speech." E. A. Hooton 1939 *Crime and the Man.* Harvard University Press, p. 342.

Hermann J. Muller, Nobel prize winning professor of Genetics at the University of Indiana, made clear his interpretation of the evidence in a speech he made August 21, 1961, before the American Institute of Biological Sciences. Advocating the storage of sperm of vigorous young men of high character to be used later in producing new generations of offspring in case of extensive radiation damage following nuclear war he is reported in the press to have said that prospective parents might choose whatever special gifts they cherish, be these a "heart-felt loving kindness, a joyful disposition, musical proclivities, aptness at repartee, rapid calculation, courage, endurance, or what have you."

In the field of development of the human mind and personality, there are few if any people whose opinions are more deserving of consideration than those of Arnold Gesell.

Gesell[89] points out: ". . . embryology is pre-eminently concerned with the genesis and development of organic form. Organic form manifests itself not only in bodily structures but in the processes and functions of these structures. . . . Even at the higher physiological levels of language and thought, behavior gives evidence of lawful patterning." (p. 183). Also, he recalls that in the egg, genes are "arranged warp-woof wise in the chromosomes," and says that, "These genes carry the primary determiners of genius itself" (p. 188). Elsewhere, he states, "The morphogenesis of human behavior, therefore, is subject to lawful sequences which normally are never circumvented." "Maturation is the result of gene effects. These genes are responsible not only for species traits but for an almost infinite variety of psychosomatic constitutions. . . . The creative energies of growth derive from the genes. The degree and scope of drive trace back to inheritance. *Culture* imprints the outlets of energy, but it does not determine the potential push of the organism against obstacles. . . ." (pp. 162-166).

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[89]Arnold Gesell 1945 *The Embryology of Behavior.* Harper & Brothers.

In order to estimate the parts played by environment and heredity in various personality features, Cattell[90] and others, University of Illinois, made a comparative study of 104 identical twins, 64 fraternal twins, 182 siblings reared together, 72 unrelated children reared together, and 540 children in the general population. Their conclusions were that certain factors are predominantly environmental, and they cited what they called tender-mindedness, neuroticism and anxiety. They stated, however, that in neuroticism and anxiety, "heredity has an appreciable role as between families." Some factors show about an equal role of heredity and environment; other factors have larger roles for heredity than for environment. Among these are listed general intelligence.

Further examination of evidence on this point would be tedious and superfluous. It is very unlikely, indeed, if any geneticist, speaking as a geneticist, would deny that genetics plays a major role in the determination of intelligence, personality, and behavior.

From the foregoing testimony of the most credible witnesses in the world, it seems clear that Gunnar Myrdal and his associates deceived themselves and many other people when they wrote, "Everything we know . . . about development in the individual indicates that specific psychic traits, especially personality traits, but also the components of intelligence, are not present at birth and do not 'maturate' but actually develop through experience. Specific psychological traits, therefore, cannot be compared with specific physical traits in respect to their hereditary determination. . . ."

When the justices of the Supreme Court embraced the error of Myrdal without critical examination, they contributed to their own deception and deprived the people of the United States of their right to a firm foundation of truth for anything that purports to be the law of the land.

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[90]Cattell and others 1955 The inheritance of personality. *A. J. of Human Genetics* 7: pp. 122-146.

VII

ARE RACIAL DIFFERENCES HEREDITARY?

Having seen that individual differences are largely determined by the component of genes we must next address ourselves to the question: Are important racial differences in these respects also hereditary?

The integrationist dogma is that racial differences are mainly environmentally determined. In a booklet, prepared for use in the New York schools, Ashley Montagu says, "Were we to equalize the way of life of all peoples and raise every child in much the same way, there can be small doubt that most, if not all, ethnic differences would disappear." The thought in that statement is basic to much action in the world today, and apparently it underlies both our domestic and foreign policies. The trouble is that it is not in accord with the facts, and so its fruits can hardly be good.

Despite lack of laboratory experimentation with the genetics of human racial features, there is convincing evidence that racial features in humans are subject to the same Mendelian principles of inheritance that have been shown to operate in dogs and other animals. For what happens on the physical side we may cite the observations that Ruggles Gates[91] made of the results of a cross between an Eskimo woman in Alaska and a Dane with Nordic blue eyes and fair hair. The children of the first generation "were intermediate, as is generally true in racial hybrids. One daughter, when she grew up, married another Nordic from Denmark. This is the back-cross of the F_1 [first hybrid] generation to the White race and should give the maximum of genetic segregation. It did. One of their daughters was like the mother, intermediate between the races in all her characters, including skin color, hair form and eye-folds. The other daughter had

[91]R. Ruggles Gates 1961 Heredity in the races of man. *Transactions of the Bose Research Institute,* v. 24: pp. 1-5. (First Jagadish Chandra Bose Endowment Lecture, delivered at the Bose Institute on November 6, 1959.)

blue eyes, fair hair and white skin, but her broad cheeks and other features were distinctly Eskimoid or Mongoloid." This illustrates how ethnic differences diffuse rather than disappear in race mixing.[92]

We have noted in an earlier part of this paper that there are differences between the White and Negro races ranging from the chemistry of the body to psychological qualities and behavior. What is some of the testimony concerning the genetic basis for these differences, and what are the opinions of competent and credible witnesses?

David Rife,[93] Professor of Genetics, Ohio State University, says, "Sheer logic tells us that if individuals differ genetically with respect to intelligence, populations also must differ in this same respect" (p. 215). Referring to the statement made by UNESCO's propagandists that "available scientific knowledge provides no basis for believing that groups of mankind differ in their innate capacity for intellectual and emotional development," Rife states: "One gains the impression that the authors were determined at all costs to defend the hypothesis that heredity has little or nothing to do with mental traits and human behavior. . . ." (p. 248). Again, on p. 254, he says, "yet today we are being conditioned against believing that heredity can be of much importance with respect to differences in human behavior. Open-mindedness on the subject is discouraged, as though even this might be undemocratic." He expresses the further opinion that ". . . a recognition of the biological basis of human differences can be an invaluable asset. All men are 'brothers' but as any parent of two or more children will testify,

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[92]For another interesting study of the effect of race crossings among humans, see J. A. Mjoen 1923 Harmonic and Disharmonic Race Crossings. *Eugenics in Race and State.* Second International Congress of Eugenics, Vol. II, Williams and Wilkins Co., Baltimore. Prof. Mjoen observes: "Crossings between widely different races can lower the physical and mental level. . . . Until we have more definite knowledge of the effect of race crossings we shall certainly do best to avoid crossings between widely different races, and nourish and develop a strong and healthy race instinct." (p. 60).

[93]David Rife 1959 *Heredity and Human Nature.* Vantage Press; New York.

brothers may differ greatly from one to another. Furthermore, many of these differences are more than skin deep, and go literally to the bone." (p. 245).

Arnold Gesell[94] has made the following statements bearing on this matter: "Evolution has conferred upon every species a generic yet distinctive ground plan of development." "Species traits cannot be transcended. They are ingrained. The human fetus is human from inception. . . ." "Every species has its distinctive behavior traits. Each member of the species has individualizing variations of these basic traits. But no human individual is so individual that he ceases to belong to his species. His most fundamental behavior characteristics are those which are common to the species as a whole. . . . Less fundamental are those which are peculiar to a breed or a stock. . . ."

"The human growth complex is . . . undoubtedly sensitive to cultural influences from the moment of birth. . . . He [The infant] adjusts not only to a world of things but to a world of persons, and the sum total of these adjustments constitute his personality make-up". ". . . A biologist would insist that the whole process is delimited and primarily determined by the embryological mechanism of maturation. These mechanisms are the true matrix. They account for the perpetuation of species traits and also for the individual variations thereof. . . ." (pp. 160-161).

As pointed out by Gesell, racial differences are determined in part by differences in the racial pools of genes and in part by differences in environment. The genes react with the substance of the body and the body reacts with the environment in accordance with the nature of the genes. Many genes in Negroes and Whites are common to both races, to all races of men. Many of the genes common to both races are unequally distributed in the two races. Many other genes, and the traits that result from them, are characteristic of one race or the other. The genetic behavior of some of these exclusive, or virtually exclusive, genes

[94]Arnold Gesell 1945 *The Embryology of Behavior.* Harper and Brothers.

for one race, like the gene for the sickle-cell trait in the Negro, has been demonstrated.

A. The Origin of Racial Differences

Is it reasonable to assume an ancient hereditary nature for racial differences? The revelations of the anthropologists give us reason to think so. William Howells,[95] Professor of Anthropology at Harvard, tells us: "The Upper Paleolithic invaders of Europe (e.g., the Cro-Magnons) mark the definite entrance of Homo sapiens, and these men were already stamped with a 'white' racial nature at about 35,000 B.C. But a recently discovered skull from Liukiang, in China, probably of the same order of age, is definitely not Caucasian, whatever else it may be. And the earliest American fossil men, perhaps 20,000 years old, are recognizable Indians. No other remains are certainly so old; we cannot say anything about the first Negroes. Thus racial differences are certainly older than 35,000 years."

Professor Carleton S. Coon, president of the American Association of Physical Anthropolgists, goes considerably further. In the Second Edition of his *The Story of Man,* published May 15, 1962, Coon presents new evidence indicating not only that man had begun a differentiation into races as long ago as 360,000 years but that the Negro race is 200,000 years behind the White race on the ladder of evolution. Because of the freshness and importance of this material let us consider it in some detail.

On pages 28-38 and 60-62 of the book just mentioned, there is a discussion[96] of the transition in the evolution of mankind from the ape through a still unidentified Australopithecine ancestor to Homo erectus and then to Homo sapiens (modern man). Homo erectus, as the name implies, stood and walked

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[95]William W. Howells, The Distribution of Man. *Scientific American,* Sept. 1960.

[96]Carleton S. Coon 1962 *The Story of Man.* Alfred Knopf; New York. The summary of Dr. Coon's position which follows in the text is taken in part from Carleton Putnam's paper *Evolution and Race: New Evidence* 1962, National Putnam Letters Committee, New York, by permission.

erect but lacked the brain capacity, and consequently the intelligence,[97] of Homo sapiens. Fossil skulls of Homo erectus have a brain capacity that ranges from 775cc. to 1225cc. The brain capacity in skulls of Homo sapiens ranges from below 1100cc. to 1800cc.

As to other features of the skull, the teeth of Homo erectus are generally larger than those of Homo sapiens. This criterion, however, is not as dependable as that of the ratio of brain size to palate size. A steady progression is found in the brain-palate ratio from the Australopithecines to Homo erectus to Homo sapiens.

Man's differentiation into races occurred while he was still in the Homo erectus stage. Erectus skulls found near Peking, China, and dated at 360,000 years ago (110,000 years before the first known appearance of Homo sapiens), have distinct Mongoloid characteristics. An erectus skullcap found in Olduvai Gorge in Africa in 1960, and provisionally dated at 400,000 years ago, has both Caucasoid and Negro characteristics. One very late specimen of Homo erectus was discovered in 1921 at Broken Hill, Northern Rhodesia, Africa, and is dated at no more than 30,000 years ago. As Dr. Coon expresses it, "His facial configuration is an oversized caricature of the features of living Negroes." This Rhodesian specimen shows no substantial advance over the Olduvai man of the early middle Pleistocene period.

Dr. Coon points out in this connection that certain regions of the earth south of the equator, among them Central and South Africa, were areas of refuge during the Pleistocene and formed what might be called stagnation points where evolution was notably retarded both in the development of man and

[97]The layman should not be confused by statements that brain size is not a measure of intelligence. True, brain size is not the only measure of intelligence. The relative size of parts of the brain and the relative sulcification (grooving) of the cortex are involved and the microscopic structure as well. The essential point here is that, *other things being equal*, and considering higher animals in general perspective, the larger the brain relative to body size, the greater the intelligence. See *supra* p. 31, n. 51.

other forms of life. "The survival of Homo erectus in these antipodal Edens," Dr. Coon continues, "was not disturbed until no earlier than about 30,000 years ago, almost a quarter of a million years after the first appearance of Homo sapiens in regions nearer the center of evolutionary activity."

Of major interest, of course, are the dates at which the different races of mankind took the evolutionary step from erectus to sapiens. The oldest Homo sapiens skulls known are two which are dated at 250,000 years ago. Both are Caucasoid (White). One is the skullcap of a woman found at Swanscombe, England; it has a cranial capacity of about 1325cc. The other, also of a woman, was unearthed at Steinheim, Germany.

The next sapiens skulls in order of age are found in China and are dated at about 150,000 years ago. "A late middle Pleistocene skull from Mapa, South China," says Dr. Coon, "was still essentially erectus while an early middle Pleistocene one from Tze Yang was essentially sapiens." Moving further south to Java, two skulls which are primitively sapiens are dated near the *end* of the Pleistocene, and in North Borneo a sapiens Australoid skull has been dated by radio carbon at 40,000 years ago.

Finally, turning to Africa, the oldest sapiens skulls would appear to be four excavated at Kanjera, Kenya, which racially seem to be Negro and are again probably upper Pleistocene with a tentative date set by Dr. Coon at 40,000 years ago. In other words, Homo erectus survived longer and evolved into Homo sapiens later, by far, in Africa than in Europe or Asia.

This evidence must be considered together with evidence concerning the use of fire by early man. Fire was not only of importance to our primitive ancestors as a means of keeping warm. It was equally valuable as a protection at night against wild beasts. The first evidence of the controlled use of fire by man is found in the hearths in the Choukoutien caves near Peking. These hearths are 360,000 years old. The next evi-

dence comes from Europe 250,000 years ago, at Swanscombe in England, and in Spain.[97a]

In Africa, on the other hand, although diligent search has been made for fire, no trace of the charcoal and ash which indicate its use has been found at a period earlier than 40,000 years ago. Dr. Coon describes the large, open-air camp at the East African site of Olorgesailie in which human beings lived time and again for long periods and states that Lewis Leakey, who was searching for evidence of fire, could find no sign of it. Then Dr. Coon goes on: "None of the surviving Stone Age hunters of the world camp without fire if they can help it, because even when it is not needed for warmth it protects them during the night from predatory animals. If the hunters of Olorgesailie, a region abounding with lions and other ferocious carnivores, had had fire, they would have used it. The other early sites of the African hand-axe tradition tell the same story."

In sum, then, the evidence from human fossils indicates that the step from erectus to sapiens was taken by Caucasoid man in Europe no less than 200,000 years before the same step was taken by Negro man in Africa. This fossil evidence is confirmed from a completely independent source, the use of fire. The wit to control and use fire even existed in the Mongoloid erectus 360,000 years ago and was evident in Homo sapiens in Europe 250,000 years ago. This step appears not to have been taken by Negro man earlier than 40,000 years ago. Since there is general agreement that man has continued to evolve after becoming Homo sapiens, the lead of the White race over the Negro in this respect would thus appear to be about 200,000 years.[98]

It is also apparent that the racial differentiation of man antedates the advent of Homo sapiens and probably goes back at

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[97a]The actual ability to make fire as distinguished from its controlled use is first found, according to Coon, not in China but in Europe. About 100,000 years ago, Europeans not only had fire, but knew how to make it.

[98]Full documentation of Dr. Coon's position will be found in his *The Origin of Races,* to be published by Alfred Knopf in the autumn of 1962.

least 360,000 years. In the light of what we know about mutations and natural selection, it would be strange indeed if, during those thousands of years, the different racial groups, in their different areas, had not accumulated different pools of genes and varied racial characters, with all that we have seen this to mean in the fields of intelligence and behavior, even if the regional divisions of mankind were identical 400,000 years ago.

VIII

SHOULD WE PROMOTE RACIAL AMALGAMATION?

Since individual differences in structure, intelligence and behavior are in large measure genetic in origin and therefore transmissible from generation to generation, and since racial differences are due to differences in the pool of genes of the races, what should be our attitude towards the promotion of programs that would bring about protoplasmic mixing of the White and Negro races in this country?

It is not sufficient to answer that question by reassertion of the dogma of equality nor with vague words about morality and social justice and brotherhood. Who can know what is moral or what is social justice without examining the facts and anticipating the consequences of proposed actions?

Our special concern in seeking an answer to the question confronting us should be with truth and genuine goodness, with creativeness and the capacity to develop and maintain a high culture and the virtues and benefits of what we call civilization. Transformation of that concern into wise action requires knowledge and thoughtful rather than emotional judgment. Insofar as the races are involved in that problem, we have no better guide to wise decisions than knowledge of the natures of the two races and their records of behavior and achievement. To ignore those natures and those records is to court tragedy.

History is the record of human achievement. The white man's part in history is predominant. There is much that is bad in that record. Most creative goodness of the past is also

in the white man's record. The Agricultural Revolution which preceded historical civilization involved the white man primarily, although it appears that Mongoloid people of China and America were not far behind in time. Braidwood[99] says, "The first successful experiment in food production took place in southwestern Asia, on the flanks of the 'Fertile Crescent.' . . . The two earliest indisputable village-farming communities we have so far excavated were apparently inhabited between 7,000 and 6,500 B. C. They are on the slopes of the Zagros mountain crescent in Kurdistan. . . ." The Neolithic villages discovered by Malaert in Turkey antedate Braidwood's communities.

In recent centuries, the Scientific Revolution, too, must be credited to the genius of the white man, with some contributions by the Mongoloids. Between the Agricultural Revolution at the far end of 10,000 years and the Scientific Revolution at the near end, most of the civilizations of history have been created by the white man. Other civilizations have been the products of Mongoloids in China and in pre-Columbian North and South America, and by people of unknown race in southwestern India.

A. The Historical Record of the Negro Race

During the decades of this century there has been increasing zeal and pressure on the part of many social scientists and others to promote Negroes without much regard for merit, and to create the impression that the Negro race has a record of cultural achievement of an order comparable to that of the Caucasians and Mongolians. This has been done through magnification of the trivial and through distortion and misrepresentation of the facts.

The initial activist in this movement seems to have been W. E. B. De Bois, sociologist and prominent Negro leader, radical agitator, and well-known Communist promoted leader of the N. A. A. C. P. (In his sketch in Who's Who he lists the Lenin

[99]Robert J. Braidwood The agricultural revolution. *Scientific American,* Sept. 1960.

Peace Prize as one of his distinctions.) Clyde Kluckhohn, Harvard anthropologist, and others followed Du Bois in trying to build up an impression of medieval African greatness. Nathaniel Weyl[100] surveys the claims made for Negro culture in olden times, points out errors in many of the claims and says that "Kluckhohn's panegyric on the intellectual life of medieval Timbucktu is fantasy."[101]

Masonry structures found at Zimbabwe and elsewhere in Rhodesia have been pointed to as evidence of Negro achievement in past centuries. But these structures are out of harmony with anything else known to have been done by Negroes before or since. Furthermore, foreign coins and other artifacts suggest a foreign influence in their construction. Recent studies of the skeletons found in two of these sites show they were not those of Negroes.[102] Crediting the structures to the creativeness and energy of the natives would be like crediting Capetown, Johannesburg, and Leopoldville to Negro greatness if and when explorers from another continent should discover their ruins a thousand years from now.

I shall not labor the obvious by weighing upon any scales of value the relative achievements of the Caucasian and Negro races. Through all recorded time the Negro never invented the wheel, the sail, the plow or a system of writing. He never produced a great religious leader or philosopher. He remained a relative savage through the ages in which the Caucasian and Mongol were building their civilizations. In defense of this record and of Negro racial characteristics generally, two major arguments have been advanced: The "historical accident" explanation and the "hot climate" explanation. We will examine each of these in turn.

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[100]Nathaniel Weyl 1960 *The Negro in American Civilization.* Public Affairs Press, Washington, D. C.

[101]Kluckhohn's equalitarian views on race were becoming modified at the time of his death. See Carleton Putnam 1961 *Race and Reason: A Yankee View,* p. 51, note 6. Public Affairs Press.

[102]A. Galloway 1937 The skeletal remains of Mapungubwe, Pt. 8 in Fouche, L., ed.: *Mapungubwe,* pp. 127-74. Cambridge University Press.

A. Galloway 1960 *The Skeletal Remains of Bambandyanalo.* Witwatersrand University Press, Johannesburg.

B. The "Historical Accident" Explanation

The historical accident theory, originally developed by Franz Boas,[103] founder of the American school of equalitarian anthropology, charges the condition of the Negro race to isolation—to the absence of stimulating contacts with other peoples and cultures rather than to the absence of innate capacity. The elaboration of this theory may perhaps sound plausible to naive students in a class in anthropology or to uncritical readers who do not look behind the words, but it is not admissible as an explanation of the problem for two reasons:

1) It is not in accord with early history. The fact is that trans-Saharan Africans have been in contact with other peoples since the dawn of history through the migration of Negroes into Egypt and Ethiopia and through the explorations and commercial expeditions of Egyptians, Phoenicians, Carthaginians, and Asiatics into Africa. Alfred Kroeber,[104] noted anthropologist, writes: "All in all, Negro Africa lies open enough to the main Eurasian centers to have presumably experienced a slow cultural 'bombardment' that constantly mingled new traits with old, foreign with acclimated, and acclimated elements with those indigenously evolved. Through the centuries and millenia, everything got worked over until it took on the native local color."

These contacts, however, failed to stimulate the minds or the energies of the Negro to the extent or apparently in the direction of causing him to create a high culture of his own or to borrow ideas resulting in his advancement from savagery to civilization. As we have seen, remains of structures indicating the existence of a more advanced culture in a few places have turned out to be the result of the presence of Arabs or other foreigners.

2) It is not in accord with recent history. The Negro race in recent times has shown a resistance to creative urges from civilized contacts. This is evident to those who travel through

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[103]See *infra*, p. 78.

[104]Alfred Kroeber 1948 *Anthropology*, p. 765. Harcourt, Brace & Co.

rural areas of the South peopled mainly by Negroes. Here one finds rural slums. Or, if one explores the Negro areas of Southern towns and cities, one finds urban slums. Again, if one moves from the South to the North or West and explores the Negro areas of those cities, he finds northern or western urban slums. Wherever the Negro population expands into previously high class residential areas, these quickly become slums.

If one leaves this country and goes to a foreign Negro area, northeastern Brazil, for example, one finds a massive slum, classified as underprivileged, underdeveloped, and in need of outside assistance. If one goes to Haiti, where 170 years ago the Negroes slaughtered the Whites and took over a country with a thriving civilization one finds a national slum. In light of such facts, Boas' historical accident theory is an excuse, a rationalization—not a tenable hypothesis.

There are to be sure White slums, too, but not to compare with Negro slums. It is true also that one finds Negroes who exhibit praiseworthy characteristics and achievements of a high order. The point is there are not enough of these.[105] Of such Negroes, most are of mixed ancestry. If there were more Negroes with talents for civilization, we would have no race problem or it would be a very different one.[106]

C. The "Hot Climate" Explanation

Other apologists for the virtual absence of significant achievement by the Negro race in Africa point to the steaming jungles of the tropics and suggest that this debilitating environment, not Negro character, is the explanation for African backwardness. We cannot base great issues on acceptance of this explanation for it does not stand the test of critical examination.

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[105]The reader is reminded here of Dr. Garrett's summary of Dr. Shuey's findings, *supra*, p. 19: "About six times as many Whites as Negroes fall in the 'gifted child' category. About six times as many Negroes as Whites fall below 70 I. Q.—that is, in the feeble-minded group."

[106]Further discussion of the historical accident theory may be found in Carleton Putnam's *Race and Reason: A Yankee View*, p. 24. 1961. Public Affairs Press.

When we survey the history of races and civilization throughout the world, we find that other races have done admirable things in environments similar to the tropical jungles of the Congo. For example, American Mongoloids created the astonishing Mayan culture in the tropical rain forests of Central America. They developed a complex society and constructed large and magnificently decorated public buildings. They developed astronomy and a chronological system based on it, and other areas of knowledge.

Again, in the tropical Indus River valley, a great civilization thrived about 5,000 years ago, contemporaneous with the Sumerian and Egyptian civilization. The people left large cities built of brick, and other surprising achievements. There is uncertainty as to the racial elements responsible for these achievements, but the concensus of opinion of the best authorities seems to be that the creators consisted of a combination of Dravidian people and Caucasians of Mediterranean type who had early migrated into the region.

Toynbee has pointed out that the development of civilization in Egypt was not an easy accomplishment. It required the transformation of the pre-historic jungle swamps of the lower Nile into the ordered networks of dikes and fields where soil and water are subject to human control. Yet the Egyptian Caucasoids did subdue the terrain in an uninvigorating climate and made the fertile soil yield abundance.

Furthermore, Africa is not all Sahara desert and steaming Congo jungle. It is an immense continent extending 5,000 miles from the Mediterranean sea to the southern cape and it is 4,600 miles from east to west. It has a wide range of geography, temperature, and humidity. It has great mountains. Mount Kilimanjaro is 19,892 feet high, almost 4,000 feet above the line of perpetual snow. Africa is largely a plateau with an average elevation of 2,000 feet, and travellers can readily leave behind the hot, moist coastal regions or the river valleys and in a short time be in territory where they can enjoy pleasant and healthful conditions. We do not find that such conditions have made any improvement in the Negro.

However, there is another school of thought as regards climate and the black man. This school concentrates on examining the effect of a debilitating climate on a race which lives in the debilitating areas over thousands of years through weakness of will, or is trapped there through other weaknesses.

Environment, continued over millennia, can produce genetic effects. It operates by contributing to the elimination of individuals who are born with mutations that hamper survival in the particular climate and at the same time contributes to the survival and establishment of individuals born with mutations that are favorable for survival in that climate. For example, heavy pigmentation seems to be an advantage to those living exposed to long hours of tropical sun; light pigmentation is a disadvantage. On the other hand, light pigmentation, since it permits greater penetration of the sun's rays and so greater formation of sunlight vitamin, is an advantage, and heavy pigmentation is a disadvantage, in far northern or southern regions where the hours of sunlight are few and the rays sloping.

Similarly, as regards intellect, character, and behavior, it is plausibly argued by this school that where food is available for the gathering, and where foresight and protection from the rigors of winter are unnecessary, nature has not been effective in eliminating the improvident and the lazy or in selectively perpetuating the more intelligent, the foresighted and the industrious. In consequence, as generations have come and gone, there has been less selection than in more severe environments of a population with those qualities of mind and character which overcome hostile or unfavorable conditions of nature, terminating in civilized society.

It will be seen that neither approach to the problem of climate supports the view that the Negro's level of character and intelligence is environmentally conditioned in the usual sense of that term. If climate can be used as an explanation at all, it is an explanation without a remedy. As Weyl has expressed it, "the fundamental barrier is less the action of climate on the living generation than its cumulative action, over an immense time span, in forming the race."

D. Heredity Versus Environment in Negro History

The Negro has seldom done much beyond supplying the lower forms of labor wherever he has lived in contact with the civilizations of others.

Francis Galton,[107] who conducted explorations in Africa about 100 years ago, observed that, "The Negro now born in the United States has much the same natural faculties as his distant cousin who is born in Africa; the effect of his transplantation being ineffective in changing his nature, but very effective in increasing his numbers. . . ." After another hundred years that statement is still true in spite of some appearances of progress. Although Negro colleges and universities have been built, they have been built almost wholly with the white man's money and the white man's brains.

At this point it seems appropriate to quote a statement of George F. Carter,[108] Professor of Geography at Johns Hopkins University:

"Why do some men starve on soil which feeds others plentifully? If there is a dominant note in the history of man, it is that he makes his own world. . . . in the desert of southwest Africa, man has remained in the Middle Paleolithic stage of hunting and gathering. . . . The inhospitable Andean highlands, with their thin air and arid cold, produced the magnificent Inca civilization, while similar mountains in New Guinea have seen nothing but savage tribes who have barely felt the tremors of the agricultural revolution.

"For further proof that man, not environment, is the dominant force, one may look at the contrast between the United States and Brazil. Too often, it has been said that a splendid natural environment made America great. In truth, this is a mediocre environment at best. . . .

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[107]Francis Galton *Hereditary Genius.* Edition of 1892, reprint of 1925, by C. A. Watts and Co.

[108]George F. Carter 1961 The Earth. *Johns Hopkins Magazine,* v. 12 (May-June), pp. 24-29.

"Brazil, in contrast, has twice as much potentially useful land, is well watered, and has almost no mountains, possesses the great Amazon and a network of navigable rivers, has coal, iron, and oil. Brazil produced sugar when it was an expensive luxury, supplied half the world's gold for a century, produced rubber, chocolate, and coffee, and had one bonanza after another, but is a second rate power and does not even feed herself.

"The difference is ideas—their spread, the acceptance or rejection of them. . . ." The biologist might add that the primary difference is in the presence or absence in the population of the pool of genes necessary to produce the minds and the personalities that will find and make use of the ideas.

What seems to this writer to be the vital historical difference between the United States and Canada on the one hand and most of the American nations below the Rio Grande on the other, is as follows: When the United States and Canada were being settled by people from western Europe, the settlers came to establish new homes, and they brought their women with them. They established homes and raised families and gave rise to succeeding generations of relatively homogenous people of English and European stock. They created a civilization of essentially European type because they had the pool of genes of European people as well as European memories and contacts.

So far as Brazil is concerned, and much of Central and South America, the invading Europeans were not colonizers intent on establishing new homes in a new country; they were largely conquerors and adventurers. They did not generally bring their women, their families with them. They satisfied their sexual urges by interbreeding with the native Indian women and later on with Negro women too, after the introduction of Negro slaves. In consequence, they did not give rise to succeeding generations of homogeneous European stock such as that found in North America. The produced a population composed of whites, Indians, Negroes, mestizos and mulattoes. Such is the contemporary "underpriviledged" population of these underdeveloped, poor countries that look to the United States to raise

their standards of living. This situation is so important to a proper consideration of our present North American problem that I want to corroborate the facts with the words of a competent historian, Professor George E. Mowry,[109] Department of History, University of California at Los Angeles:

"The people of South America are a complex blend of European, Negroid, and indigeneous Indian races. The early Spanish and Portuguese settlers of the continent, unlike the English to the North, conquered the more numerous and submissive Indians instead of pushing them as a body westward, enserfing instead of expelling or annihilating them. Coming to the New World without wives, many of them later married the more comely Indian girls and produced the predominant element of Latin American population, the mestizos, technically a term designating the offspring of an Indian mother and a Spanish father, but now applied to any mixture of Indian and European blood. With the precedent for such admixture set, miscegenation became common even among the millions of Negro slaves imported from Africa. . . . Today, in all Latin America there are approximately 25,000,000 Whites, 38,000,000 mestizos, 17,000,000 Indians, 25,000,000 mulattoes, and 14,000,000 Negroes. The whites . . . are located mostly in Argentina, Uruguay, Chile, southern Brazil and Costa Rica. The mestizos and Indians largely inhabit all the tropical highlands. Northern Brazil, Columbia, Venezuela, most of Central America, and the Caribbean are heavily populated with Negroes and mulattoes."

The facts of history in these countries virtually force us to the conclusion that the ability to develop a high culture is conditioned by the genetic endowment of a population group. Also, the facts of history throughout the world provide no justification for any faith that a mulatto population would advance our civilization in this country or would even maintain it. Experience has shown that Negroid peoples have the desire to utilize the

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[109]George E. Mowry 1947 *American Society in the Changing World,* by Pegg and others. See Chapter 10, p. 183. Appleton-Century-Crofts; New York.

products of a high culture but they seem not to possess the combination of human qualities necessary to originate them. Nowhere in the world have they demonstrated that they have the creative capacities (the intelligence, the industry, the drive, and the persistence) to make a civilization; nor is there an advanced civilization in any area where there has been a high degree of absorption of Negro genes into a white population. These are facts of great importance at this time when our enemies and, surprisingly, many of our own people are exerting all available pressures to change customs and force programs that would lead to miscegenation. This is not the road to future American greatness or goodness.

Professor James C. Needham,[110] biologist of Cornell University, wrote: "The road to social deterioration runs by way of continued breeding from inferior stock. . . . Devastated cities may be rebuilt again by renewed labor and lost fortunes may be reestablished. . . . But the powers of mind and character eliminated by bad breeding may hardly be restored." (p. 147).

Another witness deserving of attention is Sir Julian Huxley,[111] noted British biologist. Speaking of the eugenics problem in general, he said:

"One of the social implications of genetics is all too obvious. The human species is faced in the biologically immediate future with the possibility of genetic degeneration. . . . The inevitable result, unless steps are taken to prevent it, will be a gradual lowering of the average level of the genetic basis of all human qualities. . . . In the United States one-sixth of the population is producing one-half of the next generation: it is most unlikely that this fact has no differential genetic consequences. . . . Those with higher genetic intelligence have, on the whole, a lower reproductive rate than the less intelligent, and this must be

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[110]James G. Needham 1950 *About Ourselves.* George Allen and Unwin; London.

[111]Julian Huxley 1950 *Genetics in the 20th Century.* The Macmillan Co. (a compilation of invitation papers presented at the program of the Golden Jubilee of Genetics, at Ohio State University, Columbus, Ohio, Sept. 11-14, 1950.)

dysgenic. The higher reproductive rate of the economically lower levels in many capitalist countries probably means a slight differential multiplication of the more shiftless and less enterprising, and in any case can not possibly be favorable in its results. . . . The geneticist . . . can point out the present dangers of degeneration as inescapable deductions from the established facts and principles of his science. . . . Once the fact is grasped that we men are agents of further evolution, and that there can be no action higher or more noble than the raising of the inherent possibilities of life as represented by the human species, then we shall find ways and means for overcoming the resistance which stands in the way of our duty. Here, again, it is knowledge and understanding which can liberate us and make action possible. . . ." (pp. 617-619.)

What may be done to improve the genetic qualities of the White race, considered by itself, is beyond the purview of this study. It has been my purpose to make clear that such improvement will at least not be accomplished by the admixture of Negro genes.

IX

A GUIDE TO SOCIAL JUSTICE AND NATIONAL GREATNESS

Looking towards the end of raising the inherent possibilities of human life, our opportunity and clear duty, in the light of the best and most complete knowledge and understanding that we can command, is to:

1) Avoid those actions and programs that seem destined to bring about deterioration in the quality of our genetic pool. More specifically, it means the avoidance of any compulsory programs that would tend to bring about the mating of well-endowed, potentially creative people with poorly endowed, uncreative people. This avoidance does not involve the denial of any genuine rights to any group or individual. It does in-

volve recognition of the differing natures of peoples and the taking of those differences into consideration in determining policies.

2) Adopt programs that have good promise of raising the quality of our pool of genes and so increasing the number of able and wise people in our population, since the production of the maximum number of able and wise men seems the surest way to national greatness. Here let me quote Julian Huxley again: ". . . where intelligence is . . . a major factor in progressive change, a quite small excess of individuals of very high intelligence will have disproportionately large effect" (p. 613). And again, ". . . Further, in human evolution . . . the exceptional individual can play a much more important role than in any animal species, and the genetically gifted minority will of necessity be the most important agency of any change deserving the name of progress" (p. 619).

3) Insofar as our knowledge, wisdom, and resources permit, improve the quality of our environment so as to permit and stimulate the fruition of all our good genetic potentialities in order to further increase the chances for the production of wise leaders and able people at all levels. In engineering this good environment, it is desirable for the social planners and politicians to remember that it is apparently more difficult to tell what is a good environment than it is to tell what is good heredity. For example, Benjamin Franklin, Abraham Lincoln and Thomas A. Edison, representing different generations in our history, all arrived at their state of greatness with virtually no schooling and in types of environment not approved by social planners of our generation. Cultural privation in their youths did not make failures of these men nor keep them from the heights of competence and eminence. This is not to belittle the potential value of schools.

4) White people should assist Negroes in providing as good an environment for their children as they are capable of creating; but for the federal government to compel White

parents to send their children to school in as bad an environment as Negroes can and do create is neither social justice nor wise national policy.

I am sorry that the need to protect the White race and our civilization against the evil results of false and insistent propaganda has made it necessary to present data that may hurt the feelings of some fine and able Negroes, but the alternative is greater tragedy. Well-meaning humanitarians forget that an overlap of 10-20% does not eliminate the existence of an 80-90% underlap. One swallow does not make a summer, and a few intelligent Negroes do not make a race. The integration of our White and Negro children in schools, and other forms of social integration, involve race masses, and race masses involve averages, not exceptions. The full impact of such integration may not be felt in the first generation, but in the second and third generations the trend to intermarriage moves with increasing momentum as the equalitarian ideology seduces young minds and the standards of society decline. In this we have the universal and invariable experience of history to instruct us.[112] Our survey of the evidence in these pages shows that the process must surely result in evil, not good. Doing evil is not Christian.

It is difficult to find any real factual support for racial integration in statements coming from the organized forces behind it, but those forces are prolific in verbal devices for confusing

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[112]With particular reference to the maintenance of a stable, free society, I would like to quote from a statement by Dr. Charles D. Snyder, Professor of Experimental Physiology, emeritus, the Johns Hopkins University School of Medicine: "All history teaches us that stable representative democracies heretofore have been the rarest form of government and have been maintained only by very small segments of the earth's total populations at any one time. . . . Therefore a people who are able to initiate, organize and maintain continually for a century or more a thorough-going representative government, and have been able to do so by virtue of their peculiar hereditary qualities (no matter what other unwonted or disadvantageous inborn qualities they may have), should never promote, and above all never legalize social integration with people who have never demonstrated such inborn capacities." Private correspondence, 1962.

the minds of those who do not know or do not think. During recent months we have often heard the appealing argument that we should treat every one according to his worth as an individual regardless of his race. To be sure, we should value every man according to his merit—within his own race.[113] It does not follow that virtue would be served by admitting every man or woman that we value, regardless of his race, into those areas of Caucasian social life where mates are chosen. If we open those doors to select Negroes of high merit, we also open them in the end to millions of inferior individuals. If we allow ourselves to be deceived by that Trojan horse, we may expect a fate similar to that of ancient Troy that accepted the original trick and in consequence was overrun and destroyed.

X

THE INFLUENCE OF FRANZ BOAS

The evidence from science presented in the preceding sections of this book does not support the current dogmas asserting the absence of important and innate racial differences. We have seen that these differences not only exist but that many of them are related to intelligence and behavior and that the cumulative and converging testimony in this respect from biology and history, from genetics, histology, physical anthropology and psychology, is overwhelming. How then has it happened that error has come to prevail so widely? The current situation has been the result of two facts: 1) The scientific evidence has failed to reach the public mind. 2) Error, presented as scientific

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[113]Contrary to the allegations of many integrationists there is no intention upon the part of the majority of Southerners to "hold the superior Negro back" except in those areas of social integration that may lead to intermarriage. The able Negro still has every other area in which to exercise his business or intellectual ability among Whites, as well as the entire field of service to his own race. If this does not satisfy him, then there is a question as to whether he honestly wants legitimate "opportunity" or actually wants racial amalgamation.

truth and intermingled with scientific truth, has flooded the public mind.

The story of the origin of the prevailing situation illustrates the influence that flows from a clever and forceful man when supported by other men trained by him. If we disregard the question of motives, which were probably complex, the facts make a fairly straightforward story.

The principal character in this story is Franz Boas, born of Jewish parents in Minden, Germany, in 1858. Boas was educated as a physicist-geographer at the universities of Heidelberg, Bonn, and Kiel, receiving a Ph.D. from Kiel in 1881. He came to the United States in 1886 and held various posts before becoming lecturer in psychology (1896) and then professor of anthropology (1899) at Columbia University, a post he held until his retirement in 1936. In 1942 Boas died suddenly during a luncheon, just after stressing the need to combat "racism" whenever and wherever possible. An outline of his life and a sympathetic presentation of his points of view and his accomplishments are presented in a memorial volume by one of his students and followers, Melville Herskovits.[114]

Boas seems to have been a man passionately devoted to certain social and political beliefs which he upheld with whatever resources were at his command. He was said to have been a pacifist at the time of the First World War. This need not concern us here. Later he had various communist-front affiliations and was reputed to be a communist. This might concern us somewhat more but, since it is difficult to verify this, I do not wish to go into the matter further than to quote Herskovits (p. 118): "In his political sympathies he leaned towards a variety of socialism common among Nineteenth Century liberals."

Although untrained in the fields of anatomy and general biology, he must have acquired a rather wide superficial knowledge of both of these branches of science, for he made use, not

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[114]Melville Herskovits 1953 *Franz Boas.* Charles Scribner's Sons.

always correctly, of their data and concepts in supporting his sociological ideas. Prior to Boas, there was little work in anthropology in this country and few if any critical experts. He largely developed and determined the course of anthropology in America and endowed it with his sociological slant. Herskovits (p. 121) says, "To the thinking of his time he gave a firm scientific support for tolerance towards racial differences in terms so well reasoned and documented that much of what he stood for moved into common thought, its source unsuspected by most of those who follow it."

It seems proper to comment that there have always been those who favor tolerance towards racial differences but question the wisdom of some programs presented in the name of tolerance. Some of these skeptics could see, too, that the scientific support claimed for these revolutionary programs was in fact illusory and not factual. In general these have been isolated voices drowned out in the din for equalitarianism.

Herskovits (p. 106) states that "Boas was one of the first to apply anthropological findings to problems of the day," and again (p. 72), "We must do our share in the task of weaning the people from a complacent yielding to prejudice, and help them to the power of clear thought, that they may be able to understand the problems that confront all of us." "Clear thought" in Boas' judgment seems to have been thought in accord with his own.

Boas' concept of social justice rested on the thesis of racial equalitarianism. According to Herskovits, Boas' credo is revealed in four sentences in the 1938 revision of his book, *The Mind of Primitive Man.* Those sentences are: "There is no fundamental difference in the ways of thinking of primitive man and civilized man. A close connection between races and personality has never been established. The concept of racial type as commonly used even in scientific literature is misleading and requires a logical as well as a biological definition. . . . The suppression of intellectual freedom rings the death knell of science." The first of these four sentences is untrue unless the word *funda-*

mental is used as a sort of escape-hatch for whatever differences investigation reveals. The second sentence likewise appears to be untrue, as shown elsewhere in this volume. The third and fourth sentences have nothing to contribute directly to the merits or demerits of equalitarianism.

Herskovits states (p. 49) that ". . . while Boas devoted a great deal of energy to combatting racial determinism, especially in the later years of his life, this meant in essence no more than utilizing the results of scientific research in arguing political and social controversy." One is led to wonder whether in so doing, Boas selected and excluded facts in accordance with their usefulness for his purpose. Consider the following: In the 1911 edition of his *The Mind of Primitive Man,* Boas wrote, "Differences of structure must be accompanied by differences of function, physiological as well as psychological; and, as we found clear evidence of differences in structure between the races, so we must anticipate that the differences in mental characteristics will be found." He excluded this statement, however, from the 1938 edition. With regard to this exclusion, Otto Klineberg,[115] another of Boas' students and followers, stated that ". . . it seems highly probable that Boas changed his mind on this point . . ." Possibly so; but I know of nothing in the development of anatomy or physiology between 1911 and 1938, or since, to justify a change of mind on that point; quite the contrary. If other authority is wanted, it seems worth-while to recall that shortly after the new edition of Boas' book, Ales Hrdlicka[116] defined physical anthropology as "that branch of the study of man which deals in a comparative way with his physique as well as his functions, *for basically the two are inseparable*" (italics mine). Consideration of the course of events suggests that a very likely explanation of the deletion is that between 1911 and 1938 Boas' interest in promoting racial equalitarianism and

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[115]Otto Klineberg 1951 *Race and Psychology.* UNESCO, Paris.

[116]Ales Hrdlicka 1943 Contributions to the history of anthropology. *Proc. Am. Philosoph. Soc.,* v. 87 (1), pp. 61-64.

amalgamation became more intense and he was led to exclude contrary evidence.

In another book, *Anthropology and Modern Life,* published in 1928, Boas says, "In writing this present book . . . I desired to show that some of the most firmly rooted opinions of our times appear from a wider point of view as prejudices, and that a knowledge of anthropology enables us to look with greater freedom at the problems confronting our civilization." What is meant by "wider point of view" and "look with greater freedom"? Do these phrases mean anything, or were they formulated to condition the readers' minds for acceptance of unestablished ideas? Boas and some of his followers became quite adept at formulating vague phrases and sleazy arguments to support theories that they could not support with fact. Their writings have led people to have tolerance for scientific and social concepts that are seen to be untrue when all the evidence is carefully considered; and this tolerance has often changed to fanaticism when all the drums of propaganda have been brought into play.

Boas and his followers have been activists as well as theorists. In 1921 he wrote, "It would seem that, man being what he is, the Negro problem will not disappear in America until the Negro blood has been so diluted that it will no longer be recognized. . . ." Therefore, the program of mixing children of all races in schools and playgrounds was devised as a means of bringing about interracial mixing of blood.

Pressure was also brought to bear in the field of immigration policy. Boas prepared a report for the Federal Immigration Commission which he called "Changes in Bodily Form of Descendants of Immigrants" which purported to prove that head forms changed with the transfer of southern and eastern European stocks to American soil. This obvious effort to stretch the doctrines of environmentalism to the utmost extreme in the interest of the equalitarian dogma has been sufficiently unmasked by Professor Henry Pratt Fairchild, past president of the American Sociological Society, whose chapter on Boas in the book *Race*

and Nationality makes further comment unnecessary. Suffice it to say that no other study has supported Boas before or since.[117]

Boas' influence extended beyond his own efforts. He trained others to promote his ideas. Herskovits says (*ibid,* p. 65), "The four decades of the tenure of his professorship at Columbia gave a continuity to his teaching that permitted him to develop students who eventually made up the greater part of the significant professional core of American anthropologists, and who came to man and direct most of the major departments of anthropology in the United States. In their turn, they trained the students who, with the increase in general interest in the subject and the recognition of the contribution it can make to human knowledge and human welfare, have continued in the tradition in which their teachers were trained, especially the tradition of basing theory on empirical data, and of employing first-hand study in the field to obtain those data." The last two clauses sound fine, but they hardly seem in harmony with the unanimous action of the American Anthropological Association in November

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[117]Henry Pratt Fairchild 1950 *Race and Nationality,* Chap. VII. Ronald Press, New York. This chapter is strongly recommended to the student of politically motivated scientific propaganda. Fairchild says in part: "Two careful scholars, G. M. Morant and Otto Samson, have made an exhaustive study of the Boas report and related material, and their conclusions with respect to the Boas study are summarized as follows: 'In our opinion the data collected for the Immigration Commission are not capable of leading to definite proofs of these or alternative hypotheses of the same kind . . . As far as the Jewish material is concerned, there seems to be no justification whatever for the statement, said to be "amply proved," that there is "a far-reaching change in the type [of immigrants]—a change which cannot be ascribed to selection or mixture, but which can only be explained as due directly to the influence of environment." . . . Our general conclusion is that considerably larger divergencies would have to be found in order to establish the theory that head-form, as estimated by the cephalic index, is modified directly by the environment.'" (p. 105).

Fairchild adds: "Boas apparently is expecting his reader to accept this one study as of sufficient weight to offset not only the conclusions of dozens of able anthropologists, but also the commonplace observations of the layman in such cases, for example, as the pure-blooded American Negro where there has been no obvious modification of many basic traits after several generations of residence in the American environment." (p. 104).

1961 in attempting to maintain their dogmas by assertions and resolutions rather than by data, when confronted with the prospect of challenge.

Let us see who were some of the first-generation people to come under Boas' influence, either as students or colleagues, and who in their turn became active, sometimes impassioned, advocates of Boas' ideas. Most of the names will be familiar to those who have followed race propaganda for the past two or three decades.

Ruth Benedict, born New York 1887, died 1948; educated at Vassar and Columbia; lecturer in anthropology at Columbia, advancing to professor.

Isidor Chein, born New York 1912; M.A. Columbia 1933, Ph.D. Columbia 1939. One of the Supreme Court authorities in the segregation decision.

K. B. Clark, born Panama 1914; Ph.D. Columbia 1940; one of the Supreme Court authorities in the segregation decision.

Theodosius Dobzhansky, born in Russia 1900; graduate University of Kiev; professor of zoology Columbia University since 1940.

L. C. Dunn, born Buffalo, New York 1893; professor of zoology, Columbia University, since 1928.

Melville Herskovits, born Ohio 1895; Ph.D. Columbia 1928; assistant professor (1927) advancing to professor of anthropology, Northwestern University.

Otto Klineberg, born Quebec 1899; Ph.D. Columbia 1927; research associate in anthropology Columbia 1929-31; psychology since 1931; professor 1949.

Margaret Mead, born Philadelphia 1901; Ph.D. Columbia 1929; associate curator, American Musuem of Natural History.

Ashley Montagu, born England 1905; came to United States 1930; Ph.D. Columbia 1937; professor of anthropology, Rutgers University.

Howard Odum, born Georgia 1884; died 1954; Ph.D. Columbia 1910; Kenan Professor of Sociology, University of North Carolina 1920-1954; developed department of sociology and anthropology.

Gene Weltfish, born New York 1902; Ph.D. Columbia 1929; lecturer in anthropology, Columbia University.

The people on the above list have been authors of most of the propaganda tracts on race distributed by UNESCO and other organizations. They have written many of the doctrinaire books and articles that have found their way into circulation, and their ideas and phrases have been distributed over the world by newspapers and journals, by radio and television. Although this is a very incomplete list of the first generation of students and followers of Boas, it is sufficient to give a general picture of the origin and work of a cohesive propaganda group.

People taught by Boas or who came under Columbia University influence have headed most of the developing departments of anthropology in American colleges and universities, and their students or students' students now staff the expanded and more numerous departments that have come into being as college enrollments have increased and as sociology and anthropology have become popular subjects.

In some institutions the propaganda enthusiasts have not been content to leave the spread of their preachments to elective courses. Required courses have been devised for wholesale indoctrination. Some years ago Columbia University instituted a course called Contemporary Civilization. For use in that course, a book was prepared called *Columbia University Readings in Race, Personality, and Culture.* The first article in that book is a race tract by Otto Klineberg, for many years recognized as one of the principal producers of shoddy integration propaganda, meanwhile posing as a reliable scholar. The last article is a selection from Gunnar Myrdal.

Examination of a Columbia catalog reveals that the Contemporary Civilization course is a requirement for a degree since

it is prerequisite to other courses in Economics, History, Philosophy, and Sociology.

At the University of North Carolina there is a course called Modern Civilization. This course is required of all freshmen and is prerequisite to other courses in History. Upon investigation, I found that one of the first required readings in the course is the integration tract by Otto Klineberg in *Columbia University Readings in Race, Personality, and Culture.* The library had on reserve three shelves full of the book to meet the calls of freshmen for this required reading.

I carefully read the article by Klineberg and judged it to be without scholarly merit and without literary charm or virtue. The only obvious reason for requiring it is that it has considerable indoctrination value when put in the hands of naive youths at the beginning of their college careers.

Further investigation revealed that both at Columbia University and at the University of North Carolina, additional readings suggested are by people who have demonstrated a strong integration slant. A number of these are in the list of Franz Boas' students on a preceding page.

It seems proper to ask, Why was no opposing point of view presented in these courses on so vital and controversial a subject? Among the faculty members who planned the courses were a number of specialists on race. It is hard to believe that none of these knew that there is another side to the coin and that it has been written about intelligently and clearly. Was education or brain-washing the objective?

There are many people devoted to the usefulness, welfare, and honor of the universities here considered. Those who would restore greatness to them must somehow find a way to restore intellectual and educational integrity to the curriculum.

Columbia and the University of North Carolina are not the only institutions at fault. There is evidence that in other colleges and universities, instruction in matters of race and other social problems is slanted, but since I have not investigated every situation elsewhere, I shall not specify.

Indoctrination has been going on in our educational institutions for 30 or more years—long enough for the young people graduated to have made their ways not only into other schools as teachers but into the clergy, business, journalism, radio, television, and politics, into every phase of American life. Here they propagate the concepts of Boas, in many cases sincerely thinking that these concepts are proven scientific truths.

The story here recorded, supplemented by the expenditure of vast amounts of money by partisan foundations and other organizations, provides an answer to the question why integration sentiment has become so widespread throughout the country, including parts of the South.

I can do little more than present the facts. Study and action by the American people are necessary to correct the condition.

WESLEY CRITZ GEORGE

"Far more and abler operations are required to the fabric and erection of living creatures than to their dissolution, and plucking of them down. For those things that easily and nimbly perish, are slow and difficult in their rise and complement."

WILLIAM HARVEY
The Generation of
Living Creatures.

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